

**An Investigation of the Impact of a Workshop Teaching Advanced Skills for  
Working with Eating Disorders**

By © Anderson Dorbeck

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### **Abstract**

Eating disorders are a serious mental health issue which affect children and youth disproportionately. Those affected by eating disorders often fail to present for treatment and when they do they may be misdiagnosed and/or ineffectively treated. Some of the factors contributing to ineffective service provision are inadequate knowledge, confidence, and skills related to eating disorder assessment and treatment among health care professionals. Continuing education is an important way to improve health professionals' capacity for managing eating disorders. This study used the Theory of Planned Behaviour and Umble et al.'s (2000) behaviour change model to guide the evaluation of a two-day advanced workshop designed to teach Emotion-Focused Therapy and Family-Based Therapy skills to health professionals across the province of Newfoundland and Labrador. The intervention was evaluated with a pre/post/12-month follow-up design to examine the impact of the workshop on attendees' knowledge (self-rated and tested), confidence, attitudes, motivation to change, and behaviour related to treatment of eating disorders. Results indicated that participants ( $N = 78$ ) had significantly increased confidence and self-rated and tested knowledge from pre- to post-workshop, and these improvements were maintained at follow-up. Motivation to change behaviour (to use workshop skills and practice more interprofessionally) and attitudes towards interprofessional collaboration did not significantly change. Participants reported significantly increased use of techniques taught in the workshop at follow-up compared to pre-workshop. In summary, this workshop was effective at changing knowledge, confidence, and behaviour, but did not change collaborative attitudes or motivation to change behaviour. Strengths of this research include the mixed methods of

investigation used, and the high pre- and post-workshop participation rate. Limitations include its quasi-experimental design, and participant drop-out at follow-up. Future research could examine the impact of continuing education for eating disorders on patient outcomes, the impact of a higher dose of continuing education sessions on behaviour change, and the impact of education for patients and families upon rates of health care services accessed for eating disorders.

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## **Introduction**

### **Eating Disorders**

Eating disorders are a group of comparatively common, serious, and chronic mental health disorders. Before embarking on a more detailed exploration of their prevalence and severity, it will be helpful to more carefully define what is meant by the term “eating disorder” and other related concepts. This will aid in interpreting the literature review given the many different groups that researchers have studied, and changes in definitions and diagnostic criteria over time.

#### **Definitions.**

Generally speaking, the term *eating disorder* refers to one of the specific mental health diagnoses in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5; American Psychiatric Association, 2013). The first such disorder is Anorexia Nervosa (AN), which is typically characterized by abnormally low body weight, intense fear of gaining weight, and disturbed body image. It is further broken down into restricting subtype (the individual does not engage in purging behaviours), and binge-eating/purging subtype (the individual eats unusually large quantities of food in a short time, or engages in purging behaviour such as vomiting, taking laxatives or diuretics, or enemas). The second disorder is Bulimia Nervosa (BN), characterized by recurrent binge eating accompanied by a feeling of a lack of control, inappropriate compensatory behaviours to prevent weight gain, disturbed body image, and a body weight that is in the normal range or higher. Binge-eating Disorder (BED) is defined by recurrent binge-eating episodes with a feeling of a lack of control, distress regarding the binge-eating, and no current inappropriate compensatory behaviours to prevent weight

gain. The category of Unspecified Feeding or Eating Disorder (UFED; previously termed Eating Disorder Not Otherwise Specified, or EDNOS) is used when there is clearly a disorder present which causes significant distress or impairment, but the criteria for the other eating disorders are not met. Finally, the DSM-5 has introduced a new category, Other Specified Feeding or Eating Disorder (OSFED), which is also intended to be used in cases where a patient<sup>1</sup> has symptoms that cause significant distress or impairment, but do not meet the full criteria for one of the other feeding and eating disorders. However, in using this diagnosis, the clinician must provide a brief description of the specific symptoms, or an explanation of the reason the symptoms do not meet the full criteria for another disorder. The DSM-5 provides a nonexhaustive list of presentations that can be specified in this category, including atypical anorexia nervosa (all of the symptoms except low body weight), binge-eating disorder (of low frequency and/or limited duration), and others.

In the literature, patients are sometimes grouped according to diagnostic categories, and sometimes according to the syndrome they most closely evidence (for instance, patients with Anorexia Nervosa can be grouped with patients who have similar symptoms but do not meet one of the diagnostic criteria, and hence are diagnosed with UFED or OSFED).

In contrast, the term *disordered eating* refers not to specific diagnostic criteria, but to any eating behaviour that is problematic. This classification can span the range of severity from behaviour that is occasional or deemed unhealthy but not likely to cause significant harm, to patterns of behaviour that can be equally as severe as AN or BN, and

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<sup>1</sup> Throughout this thesis the words “client” and “patient” are intended to carry the same meaning. Different professions may typically use one over the other. For consistency, the word “patient” will be used here unless quoting or citing others’ use of “client”.

may include some symptoms of specific eating disorders. Croll, Neumark-Sztainer, Story, and Ireland (2002) defined disordered eating as “binge eating...[eating] so much in a short period of time that you felt out of control” (p. 168), and “unhealthy weight control behaviours” (p. 167), including fasting or skipping meals, smoking cigarettes, using diet pills or speed (methamphetamine), vomiting on purpose after eating, and using laxatives.

*Body image issues* refers to cognitive and emotional distortions in the way that one’s body size, shape and appearance is perceived, or distress stemming from the discrepancy between a person’s assessment of their body and their ideal body type.

The training provided in the workshop that is the focus of this dissertation concentrated primarily on AN, BN, those cases of EDNOS that resemble AN or BN, and types of disordered eating and body image issues that are similar to those seen in AN or BN. In the context of the evaluated workshop, “eating disorders” (EDs) refers to AN and BN.

It is important to note that the DSM-5 was published in 2013, and the workshop that forms the focus of this research occurred in 2012 when the DSM-IV-TR (Diagnostic and Statistical Manual, 4<sup>th</sup> edition, text revision) was the most recent version of that manual. Some changes to the diagnostic criteria for EDs were made for the DSM-5 that have an effect on measured prevalence rates (explained further below), but maintain the core definition of each disorder. Binge-eating disorder (BED) was added as a standalone diagnosis in the DSM-5 whereas it was a subcategory of EDNOS in the DSM-IV-TR and proposed as a tentative disorder for further study. It was not directly addressed in this evaluated training. It is important for continuing education programs to strive to keep

pace with the rapidly changing state of knowledge and consensually agreed-upon diagnostic groups in this area.

### **Prevalence.**

Survey estimates of the prevalence of EDs are often difficult to compare to one another due to differences in the definition of EDs used, methodology, and the sample studied. Further, surveys of general mental health issues often do not have the power to make strong estimates of ED prevalence because they are relatively less common in the population. However, some robust research has been published addressing this issue. Using data from the National Comorbidity Survey Replication study in the United States, Hudson, Hiripi, Pope and Kessler (2007) have published what are perhaps the strongest data on this matter due to the size of the data set, the robust random sampling procedures, and the diagnostic interview protocol. The participants were a nationally representative sample of 9,282 English-speaking adults who were contacted between 2001 and 2003. The presence of an eating disorder was defined by meeting the DSM-IV criteria, as evaluated through the World Health Organization Composite International Diagnostic Interview (CIDI; Kessler & Üstün, 2004), which is a structured protocol assessing the diagnostic criteria for a wide range of disorders, including EDs. The results produced an estimate of AN lifetime prevalence (the proportion of the population who will be diagnosed with a disorder at any point during their life) of 0.9% among women and 0.3% among men (0.5% overall). BN was more common, with an estimated lifetime prevalence of 1.5% among women and 0.5% among men (1% overall). BED was yet more common, with an estimated lifetime prevalence of 3.5% among women and 2.0% among men (2.8% overall).

Le Grange, Swanson, Crow and Merikangas (2012) reported on the prevalence of EDNOS using the same dataset as Hudson et al. (2007) as well as the National Comorbidity Survey-Adolescent version (comprised of 10,123 individuals). The adolescent sample was also nationally representative in the United States and drawn from households and schools, with an overall response rate of 82.9%. In adolescents, lifetime prevalence of EDNOS was 4.78%, and among adults lifetime prevalence was 4.64%. EDNOS was the most common eating disorder diagnosis in the sample, making up 81% of ED diagnoses in adolescents, and 75% in adults (however, note that these proportions include only AN, BN, and EDNOS. When separating diagnoses of BED from other cases of EDNOS, consistent with the DSM-5, the remaining EDNOS cases make up 65.40% of ED diagnoses among adolescents, and 53.85% among adults).

The two large-scale surveys described above clearly show that while EDs are not the most common mental health problems, they are not rare. These reported prevalence estimates for EDs can be compared to prevalence estimates for other disorders for context: the estimate for the lifetime prevalence of Bipolar I Disorder is 1%; 1.1% for Bipolar II Disorder; and 2.4% for subthreshold Bipolar Disorder (Merikangas et al., 2007). The lifetime prevalence of Major Depressive Disorder has been estimated at 16.2% (Kessler et al., 2003), and the lifetime prevalence of Obsessive Compulsive Disorder has been estimated at 2.3% (Ruscio, Stein, Chiu, & Kessler, 2010).

In contrast to lifetime prevalence, “point prevalence” refers to the proportion of the population with a specific diagnosis at a particular point in time. Hoek and van Hoeken (2003) reviewed the literature on point prevalence of AN, BN, and BED. They found an average point prevalence of 0.3% for AN in young females, and very little



published data at the time in males. BN had a point prevalence of 1% in young females, and 0.1% in young males, although the partial syndrome of BN had a point prevalence as high as 5.4% in young females. It was found that BED had a point prevalence at least as high as 1%, and higher in some samples. Given the fact that this literature review is over 13 years old and there have been improvements in research methodology and diagnostic accuracy, as well as changes in diagnostic criteria, current point prevalence rates for EDs are almost certainly higher than those reported by Hoek and van Hoeken (2003).

However, it does provide some minimum estimates for current EDs in the population.

With the change from the Diagnostic and Statistical Manual, Fourth Edition, Text Revision (DSM-IV-TR; American Psychiatric Association [APA], 2000) to the DSM-5 (APA, 2013), the diagnostic criteria for AN no longer include a requirement of amenorrhea, resulting in a larger proportion of the population meeting criteria for AN. The frequency of binge-eating episodes, which is one of the criteria for BN, was reduced to once per week instead of twice per week. Additionally, BED was added as a standalone diagnosis as opposed to being subsumed under EDNOS and having provisional criteria for further study. These changes were, in part, designed to increase diagnostic specificity, and decrease the proportion of eating disorders classified in the new categories of Other Specified Feeding or Eating Disorder (OSFED) or Unspecified Feeding or Eating Disorder (UFED). As a result of these changing definitions, newer prevalence research will differ from studies using the older definitions. In a recent literature review of studies using the new DSM-5 criteria, Smink, van Hoeken and Hoek (2013) reported that in a Finnish twin study the lifetime prevalence of AN among females was 4.2%, almost double the 2.2% lifetime prevalence obtained when using the older

DSM-IV criteria. Lifetime prevalence of BN was found to be up to 2% among women, which was approximately 30-50% higher than previous estimates using DSM-IV criteria. In a large cross-national survey the lifetime prevalence of BED was 1.9% (ranging from less than 1% to 4.7% in different countries), and this proportion was found to be only a small increase compared to using DSM-IV criteria.

Stice, Marti and Rohde (2013) conducted a community study of 496 American adolescent females, and prospectively followed them for eight years to assess prevalence of DSM-5 EDs. They found the following lifetime prevalence figures by age 20: 0.8% for AN, 2.6% for BN, 3.0% for BED, 2.8% for atypical AN, 4.4% for subthreshold BN, 3.6% for subthreshold BED, and 3.4% for purging disorder. These findings resulted in a combined prevalence of 13.1% among young women—an alarmingly high number—including 5.2% meeting full criteria for an ED, and 11.5% determined to meet the description of OSFED, with some overlap between the groups.

Eating disorders affect many different cultural and ethnic groups (Marques et al., 2011). Using data from the NIMH Collaborative Psychiatric Epidemiological Studies in 2007, an American nationally representative survey, Marques and her colleagues compared the prevalence of EDs among Caucasians, Latinos, Asians and African Americans. They found that the lifetime prevalence of AN and BED were similar across the groups, and BN was more common in the Latino and African American groups. Lifetime prevalence of any binge-eating behaviour (whether or not it met full diagnostic criteria) was higher among the Asian, Latino, and African American groups compared to the Caucasian group. One limitation of this study may be that the “Asians” group was

composed of people from widely varying Asian cultures with potentially very different ED trajectories.

In Western countries that are somewhat culturally similar to North America (i.e., European countries, Australia, New Zealand), estimates of ED prevalence show some variability but are broadly similar. For instance, in Finnish women the lifetime prevalence of DSM-IV BN is about 2.3% (Keski-Rahkonen et al., 2009). Wade, Bergin, Tiggemann, Bulik and Fairburn (2006) interviewed 1002 Australian female twins aged 28-39 and found a lifetime prevalence of 1.9% for AN and 2.4% for subthreshold AN (missing only the amenorrhea criterion, which was removed from the DSM-5 criteria), for a total lifetime prevalence of 4.3%. Lifetime prevalence of BN and BED were both found to be 2.9%. Additionally, lifetime prevalence of purging disorder (within OSFED) was 5.3%. Finally, Mangweth-Matzek et al. (2014) conducted a mailed self-report survey of EDs using scales and questions from well-established assessment measures in 1500 Austrian women aged 40-60, of whom 4.6% met full criteria for an ED, in roughly equal proportions of BN, BED, and DSM-IV EDNOS. Of note, no participants reported the full symptom criteria of AN. A further 4.8% were determined to have subthreshold EDs (binging or purging without meeting all criteria for a diagnosis), with similar levels of pathology, distress and impairment. Despite the differences in populations and methodologies used, these studies demonstrate that EDs affect a substantial portion of the population in many different countries beyond North America. It is also notable that while EDs are typically found to be most common among younger individuals (13 to 25), Mangweth-Matzek et al. (2014)'s results indicate that middle-aged individuals (age 40-60) struggle with EDs as well.

In Canada, the literature on the prevalence of EDs is limited. Gauvin, Steiger and Brodeur (2009) randomly sampled 1501 women from Montreal, Quebec, and achieved a 40.6% response rate. They interviewed participants and used the Eating Disorder Examination Questionnaire, and found point prevalence rates of 0% for AN, 0.6% for BN, 3.8% for BED, 0.6% for Purging Disorder, and 14.9% for EDNOS, amounting to a total estimate of 19.8% of the female population with a diagnosable ED according to DSM-IV criteria. These numbers could be an overestimate given the study's response rate, but even adjusting for self-selection, the proportions are high.

Statistics Canada has provided broader national estimates of ED prevalence as part of the Canadian Community Health Survey (CCHS; Statistics Canada, 2002; Statistics Canada, 2012). The 2002 survey included approximately 37,000 respondents over the age of 15, drawn from a nationally representative sample. This survey used two screening questions from the CIDI designed to identify respondents who might have an ED, and the non-diagnostic Eating Attitudes Test-26 (EAT-26). Respondents were defined as “at risk” of having an ED if they endorsed a certain threshold of symptoms over the past year on the EAT-26. It was estimated that 1.7% of the total population was “at risk”, including 2.8% of females and 0.5% of males. Broken down by age, 1.9% of 15-24 year olds were “at risk”, while 1.7% of the 25-64 year olds and 1.3% of those over 65 years were “at risk”. In addition, this survey asked about past diagnoses and found that an estimated 0.5% of the population had a clinically diagnosed ED at the time of the survey. The 2012 version of the CCHS only included a yes/no question about whether the respondent had been diagnosed with an ED; 0.4% answered that they had been diagnosed, including 0.2% of males and 0.6% of females. In both the 2002 and 2012

versions of the CCHS the proportion of people with a diagnosed ED is likely to be an underestimate of the actual prevalence in the population because many people are not diagnosed, for reasons discussed in greater detail below.

It is even more difficult to find good estimates of ED prevalence in Newfoundland and Labrador. However, the 2002 CCHS (Statistics Canada, 2002) had sufficient power to estimate that 1.7% of the population was “at risk” of having an ED, matching the proportion nationally. The 2012 CCHS had insufficient power to make prevalence estimates in this province.

The literature on the prevalence of EDs has several limitations. Notably, with only a few exceptions, much of it has been done with primarily Caucasian populations, reducing the generalizability to other populations. Secondly, the definitions of EDs that are used vary extremely widely between studies. For instance, as discussed above, the diagnostic criteria change over time as new research is incorporated into diagnostic systems. Some researchers choose to separate purging disorder, subthreshold AN or BN, or other syndromes from the catchall categories of EDNOS or OSFED, while other researchers choose to combine them and report data for one category. Some research protocols use structured interviews to determine diagnoses, while others use self-report measures or self-report of diagnosis. These factors make it very difficult to compare and combine prevalence data. Thirdly, with the exception of a few large-scale population-based surveys, the population selection and sampling procedures of many studies may be focused on particular geographical, cultural, or socioeconomic groups. Thus, they may yield results that are difficult to generalize to other groups or to populations at large.

Notwithstanding these substantial limitations, this literature does allow us to draw several conclusions. EDs affect a meaningful portion of the population. They can be found across a wide range of ages and cultures. Finally, they are substantially more common in females and adolescents/young adults.

### **Severity.**

Eating disorders can be very serious and harmful disorders, with a wide range of negative impacts in many areas of a person's life. This fact is perhaps most strikingly seen in mortality rates among people who have EDs. In their meta-analysis of 36 studies on mortality in AN, BN, and EDNOS, Arcelus, Mitchell, Wales, and Nielsen (2011) used a measure called Standardized Mortality Ratio (SMR), where 1 is the standard mortality rate in the general population. The SMR for AN was 5.86, meaning that a person with AN is 5.86 times more likely to die than a person in the general population over the course of a year. One-fifth of these deaths were due to suicide. The SMRs for BN and EDNOS were 1.93 and 1.92 respectively, which were both significantly different from the expected rate in the population, and represent close to a doubling of likelihood of mortality compared to the general population.

Recovery and remission rates are another useful tool for measuring the long-term impact of EDs. Recovery rates for AN are not high, with 40-45% of people with AN recovering, 30% showing partial improvement, and 25% continuing to have chronic significant problems (Walsh, Wheat & Freund, 2000). More recently, Smink, van Hoeken and Hoek (2013) reviewed several studies finding recovery rates from AN ranging from 52% in a sample of patients at 6-year follow-up who received cognitive-

behavioural therapy, to 69% among a community sample (treatment receivers and non-receivers) after five years.

Over 5-10 years, it was found that about 50% of people with BN will fully recover, while 20% will still meet full diagnostic criteria, and 30% will meet partial criteria for BN or be in a pattern of relapse and recovery (Keel & Mitchell, 1997). Other research on BN is generally consistent with these findings: in a 5-year prospective study, Grilo et al. (2007) found a 74% probability of remission among a small sample of patients with BN, and a 47% chance of relapse among those who had achieved remission; Keski-Rahkonen et al. (2009) reported a 55% recovery rate over five years among women with BN from a Finnish twin database; and Zeeck, Weber, Sandholz, Joos and Hartmann (2011) found that among women receiving treatment for BN, at 3-year follow-up 33% were in remission, 36% in partial remission, and 31% still met full criteria for BN. Over a longer term of 20 years, nearly three quarters of women with BN have been found to be in remission, while more than a quarter still met diagnostic criteria for an ED (but not necessarily BN; Keel, Gravener, Joiner & Haedt, 2010). These studies demonstrate that while some people recover from AN and BN, for others it is a lifelong struggle.

In a large Australian sample of adult female twins ( $N=1002$ ) examining outcomes for those with EDs, findings revealed less than 50% of those with lifetime AN, BN, BED, or purging disorder were asymptomatic at the time of data collection (mean 14.5 years after ED onset; Wade et al., 2006), which means that the remaining over 50% were experiencing symptoms of their ED. Further, those women who had a lifetime ED were more likely than women without a lifetime ED to have ongoing concerns about their

body's weight and shape. Specifically, the authors classified overall outcome into six categories ranging from "Poor outcome" to "Asymptomatic", with "Good outcome" meaning no more than moderate weight and shape concerns and no behaviours that meet diagnostic criteria for an ED. Ninety-six percent of participants without a lifetime ED were rated "Good" or "Asymptomatic", while only 69 to 89% of each diagnostic group achieved "Good" or better outcome (Wade et al., 2006).

The literature on recovery from EDs has several general limitations. First, the definition of "recovery" that is used in different studies can vary widely, and is poorly characterized in some studies. This variability makes it difficult to compare recovery rates between studies, and in some cases makes it challenging to interpret what is meant by recovery. Second, researchers do not always describe how often people with EDs cross diagnostic boundaries, including whether such individuals are counted as recovered from the original condition, non-recovered, or in a separate category. Given the relatively frequency with which individuals with EDs change diagnostic categories, this is a critical issue. Third, many studies rely on self-report information which is susceptible to biases. And fourth, studies use a wide variety of follow-up timelines, again, making comparisons between studies more difficult.

Aside from the direct impact of the symptoms of EDs, many people with these diagnoses experience impairment in other areas of their lives. In the National Comorbidity Survey Replication study (NCS-R), at least some role impairment was reported by 78% of participants with BN, 62% with BED, and 53% with any binge-eating behaviours (Hudson et al., 2007; data from those with AN were not available). Results from the adolescent version of the National Comorbidity Survey Replication (NCS-A) are



similar: 97% of adolescents with AN, 78% of those with BN, 63% with BED, and 35% with subthreshold BED reported role impairment over the previous 12 months (Swanson, Crow, Le Grange, Swendson, & Merikangas, 2011). These findings underscore the wide-ranging impact that EDs have on a person's life.

The comorbidity rate among people with EDs is high, which impacts functioning, quality of life, and treatment. Swanson et al. (2011) examined comorbidity rates among adolescents with EDs in the NCS-A. They found that the percentages of adolescents with another DSM-IV diagnosis was 55.2% for AN, 88% for BN, 83% for BED, 79.8% for subthreshold AN, and 70.1% for subthreshold BED. Among adults in the NCS-R, 56% of those with AN, 95% of those with BN, 79% with BED, and 64% with subthreshold BED met the criteria for another DSM-IV disorder (Hudson et al., 2007). While these survey results are broad in their scope, they provide a glimpse of the impact of EDs on individuals' lives as well as the complexity of these disorders in terms of pathology and intervention.

Although the diagnostic criteria for some EDs have been changed to be more inclusive in the DSM-5 compared to the DSM-IV, the course and outcome of these disorders has not changed as a result of including more people who now fall into these categories. Smink et al. (2013) reported 5-year recovery rates of 69% and 52% in two studies of DSM-5 AN, and 55% for DSM-5 BN, which were not significantly different compared to the recovery rates using DSM-IV diagnostic criteria with the same participants. From a more general perspective, there is also evidence that DSM-5 EDs remain serious despite the changes to diagnostic criteria. Stice et al. (2013) found greater functional impairment, emotional distress, and suicidality in adolescents with DSM-5

EDs compared to their peers without EDs. It is clear that EDs, regardless of the classification system used to diagnose them, are associated with meaningful distress and impairment.

It is important to recognize that the residual diagnoses of EDNOS/OSFED/ UFED are also serious disorders. Le Grange et al. (2012) examined the clinical severity of DSM-IV EDNOS, and found that rates of comorbid mood, anxiety and behaviour disorders, suicidality, and substance use were similar compared to people with AN and BN. These findings indicate that the disorders classified as EDNOS may be different, but not less severe than the full-syndrome diagnoses of AN and BN. Mustelin, Lehtokari and Keski-Rahkonen (2016) studied a population of twins in Finland using the new DSM-5 diagnostic criteria to examine prevalence and severity. They discovered that while the prevalence of OSFED/UFED had fallen compared to DSM-IV EDNOS (largely due to cases of EDNOS migrating to the category of AN once the amenorrhea criterion was removed), these disorders remained likely to be associated with significant clinical severity and comorbid psychiatric disorders. A different sample of adolescent twins in Australia was tested and interviewed by Fairweather-Schmidt and Wade (2014) to compare DSM-5 full-syndrome EDs with OSFED. Their results indicated that there were no significant differences between AN/BN/BED and OSFED according to the Eating Disorder Examination global eating psychopathology score, and measures of drive for thinness and interoceptive awareness. Overall, these studies support the notion that DSM-IV EDNOS and DSM-5 OSFED/UFED are disorders of similar severity compared to their full-syndrome counterparts.

In summary, there is a strong body of evidence demonstrating that EDs are very serious conditions. Recovery is often arduous and slow, and a substantial number of people never fully recover. These disorders can have wide-ranging impacts on all areas of life. In light of the severity of these disorders, there is a pressing need for mental health care services to be made available, and for health care workers to be able to recognize and appropriately treat EDs.

### **Likelihood to receive treatment.**

Given the severity and impact of EDs, it is problematic that rates of treatment among people with EDs are quite low. For instance, in a community sample in the Netherlands, only 43% of cases of AN had been identified by a primary care physician, and 79% of those identified cases (only 34% of people with the disorder) had received any mental health care referral (Hoek & van Hoeken, 2003). Even more concerning, in the same study only 11% of community cases of BN had been identified by a primary care physician, and 51% of identified patients (just 6% of the total group) had received mental health care. Similarly, in a community sample composed of 159 women with a range of EDs in Australia, only 40% had ever received treatment targeting their ED (Mond, Hay, Rodgers, & Owen, 2007). Moreover, of the treatment received, 86% was from a general practitioner, counsellor, or dietician, and only 11% was from a psychologist or psychiatrist. In contrast, 74% of the sample had received treatment for a general mental health problem (mood or anxiety), and 73% had received treatment designed to help them lose weight, which might not be an appropriate treatment for someone with an ED.

Hudson et al. (2007) also reported on service access among people with EDs in the National Comorbidity Survey Replication. The lifetime rates of treatment directly targeting the ED was 33.8% for AN, 43.2% for BN, and 43.6% for BED. Even more worrying are the rates of accessing treatment in the past 12 months for EDs (for those people with an active ED in the past 12 months): 10.3% for BN, and 6.4% for BED. No 12-month treatment rate was reported for AN because there were no 12-month cases of AN in the sample. The authors report that just over half (50% - 63.2%) of those with AN, BN, or BED had received treatment for any emotional problems at any point in their life.

Swanson et al. (2011) reported on treatment rates from the adolescent version of the National Comorbidity Study Replication. Their data indicated that the majority of adolescents with an ED had received treatment for an emotional or behavioural problem (77.6% for AN, 88.2% for BN, 72.6% for BED, 70.5% for subthreshold AN, and 64.2% for subthreshold BED). However, many fewer had received treatment targeting the ED (27.5% for AN, 21.5% for BN, 11.4% for BED, and 3.4% for subthreshold BED). I was not able to find any estimates of service access among Canadians with EDs. In the absence of such data, the closest analogue is likely the data from the NCS-R and NCS-A noted in this and the previous paragraph.

When treatment *is* provided for EDs, it is not always timely. Browne, Wells, and McGee (2006) used the national New Zealand Mental Health Survey consisting of nearly 13,000 structured, face-to-face interviews to report on service use among people with mental health problems, including EDs. The researchers found that the median time living with BN before treatment was 10 years, and the median time living with AN before treatment was 15 years.

Clearly, based on the above studies, EDs are an undertreated problem with much room for improvement in how they are handled in health care systems. There are a number of factors feeding into the current challenges in ED treatment including: (1) People with EDs might not be motivated to seek or remain in treatment; (2) Health professionals do not always screen their patients for EDs effectively; and (3) Health professionals have limited knowledge, confidence, and skills relating to EDs, leading to problems with recognition, assessment, intervention, consultation, and referral.

*Avoidance of treatment.*

The first and most obvious reason that people with EDs are not receiving treatment is that they are not seeking treatment. A systematic literature review and meta-analysis of treatment-seeking among people in the community with EDs was conducted by Hart, Granillo, Jorm, and Paxton (2011). The mean age of participants in most studies was around 30 years, with a small number examining younger adults. The participants in all but one study were 100% female, and most participant groups spanned all diagnostic categories of EDs. Hart and colleagues calculated that the proportion of people with an ED who had sought treatment specifically for that ED is just 23.2%, although the types of treatments were not described. Interestingly, they found that between 30% and 73% of people with an ED had sought treatment in order to lose weight. Although it is not difficult to understand the motivation to seek weight loss treatment among people with EDs, most of whom have strong concerns about body shape and weight, such treatment might be harmful for some of those persons in the context of their ED.

For those who do enter treatment, dropout rates are very high. A literature review of articles published between 1990 and 2013 revealed that for people with AN, treatment

dropout ranges from 20% - 51% for inpatients, and 23% - 73% for outpatients (Abbate-Daga, Amianto, Delsedime, De-Bacco, & Fassino, 2013). A literature review including a broader range of diagnoses (AN, BN, and EDNOS) found similar dropout rates: 20% - 50% for inpatients, and 29% to 73% for outpatients (Fassino, Pierò, Tomba, & Abbate-Daga, 2009).

Why are so few people with EDs seeking treatment, and why are dropout rates so high? There are a number of factors which might help explain this finding, including the ego-syntonic nature of some EDs (i.e., they produce some outcomes that are desirable to the individual and consistent with their goals and values, rather than distressing), a lack of motivation or ambivalence about change, personality factors, adverse life experiences, self-esteem, and social barriers. Specifically, Fassino et al. (2009) found that the factors most associated with dropout were having the binge-purge subtype of AN, two personality traits (high maturity fear and high impulsivity), and having more adverse early life events. Halmi et al. (2005) conducted a randomized controlled trial comparing cognitive behavioural therapy (CBT) and fluoxetine for AN, and they had an overall dropout rate of 46%; some additional participants were withdrawn from the study for other reasons (pregnancy, intolerance of medication side-effects, etc.). By the 1-year mark, only 37% of the sample had completed the treatment (27% in the medication condition, 43% in the CBT condition, and 41% in the combination condition). Notably, self-esteem was the only significant predictor of treatment completion, approximately doubling the chance of completing treatment (40% for low self-esteem across treatment conditions, and 86% for high self-esteem). Abbate-Daga et al. (2013) reported that in AN, not seeking treatment was associated with denial of having an illness, lack of insight

into one's illness, low motivation or ambivalence about change (especially as contrasted with motivation to continue performing rewarding, ego-syntonic behaviours that form part of the ED), and comorbid depression (particularly low energy, low motivation and hopelessness). Vroling, Wiersma, Lammers, and Noorthoorn (2016) found that among patients with BED, treatment dropout was predicted by eating pathology, preoccupation with shape and weight concerns, and social adjustment, among other factors. Additional factors found to be related to treatment dropout include living in a single-parent home as an adolescent, severely restricted caloric intake, lower educational status, and, contrary to the above finding, low depression symptoms (Roux et al., 2016). Finally, Marques et al.'s (2011) nationally representative US data suggests that there are significant disparities in the lifetime use of mental health services between ethnic groups among people with EDs; 76% of people in the Caucasian group had used mental health services, compared to only 62-63% of the people in the Latino, Asian, and African American groups. This research shows that in addition to eating-disorder-specific reasons for low treatment use, there are cultural and social factors at play.

***Lack of screening.***

A second reason for low treatment use in people with EDs has to do with health professionals not always effectively screening for and identifying these problems, or not referring to appropriate services. Many EDs go undetected, even when people are in contact with health professionals. To make this point, Fursland and Watson (2014) screened 260 patients who were referred for problems with anxiety and depression, using the SCOFF—a well-respected screening instrument with good sensitivity and specificity. They found that 18.5% of the sample scored 2+ on the SCOFF, indicating a possible

diagnosis of an ED. Those patients scoring 2+ were then assessed using the MINI International Neuropsychiatric Interview, which is a diagnostic instrument for use with a variety of disorders, including EDs. In total, 7.3% of the sample met DSM-IV criteria for an ED (9% for females, 4.8% for males). Most of these EDs had not been detected by the referral source. EDs may be present in many cases, even when they are not the focus of a referral or other medical contact.

Typically, a minority of EDs are identified by primary care physicians or other primary care providers (who are often the first point of contact for recognizing such problems), as many go undiagnosed. As discussed above, in one community study in the Netherlands, only 43% of people with AN and 11% of people with BN had been identified by their primary care physician (Hoek & van Hoeken, 2003). In Finland, only about a third of community cases of BN had been identified by any health care professional (Keski-Rahkonen et al., 2009).

One problem contributing to poor identification of EDs is the variety of cultural assumptions, beliefs, and myths surrounding EDs, obesity, and weight-loss that are prevalent across society, including among health professionals (Austin, 2011). Such beliefs likely influence health care providers' decisions to ask about EDs with patients who have certain characteristics (ethnic background, age, weight, socio-economic status). Indeed, ubiquitous cultural messages about the importance of weight loss and ideal physical appearance serve to normalize many disordered eating behaviours. Health professionals are not immune to such messages, and may, with good intentions, inadvertently reinforce disordered eating behaviours among patients, or collude with patients to avoid challenging such behaviours.



Stigma related to providing care for people with EDs and stereotypes about these disorders also impact care negatively (e.g., Ali et al., 2017; Dimitropoulos, McCallum, Colasanto, Freeman, & Gadalla, 2016). Some health professionals may hold views that EDs affect only middle-class Caucasian females, that people choose to have an ED, or that it is just a phase the person will grow out of. Some health care providers or services may also be reluctant to treat someone with an ED due to the perceived complexity of the case or the risk of mortality, and some may dismiss the concerns of such patients because treatment is viewed as ineffective or too time-consuming. All of these views can lead to misdiagnosis when a presenting case does not fit the stereotype, and poor treatment availability (Standing Committee On The Status Of Women, 2014). An additional complicating factor is that between a third and half of health professionals specializing in EDs believe that their colleagues have negative attitudes towards obese patients, hold negative weight-based stereotypes, or make negative comments about obese patients (Puhl, Latner, King, & Luedicke, 2014). This type of weight-based stigma can make it harder for obese patients with EDs (especially BED and BN) to be recognized, and then receive appropriate treatment.

Once an ED is identified, the clinical decisions regarding its management and treatment may not be ideal. Currin, Waller, and Schmidt (2009) used clinical vignettes to study primary care physicians' knowledge, attitudes, and treatment decisions about AN and BN. They surveyed 154 physicians in the UK, 82 of whom responded (53%). One of the questions was what should be done with a new patient with an ED. Given a fixed set of responses, a majority of respondents endorsed "Help the patient recognize the seriousness of the disorder and motivate them for treatment" (95.2%) and "Make a

follow-up appointment to monitor signs and symptoms (89.2%), but many fewer would “ask the patient to use a food diary” (41.0%) or make a referral to an ED specialist service (37.3%). In another study, Johnston, Fornai, Cabrini, and Kendrick (2007) examined what physicians would do with ED screening information for some of their patients. The researchers sampled 16-35 year-old female patients who were going to a general medical appointment with either a general practitioner, midwife, or health visitor in the UK (health visitors are nurses or midwives with additional qualifications as a community public health nurse). Patients with currently diagnosed mental health conditions were excluded from the study, such that any positive screens would indicate a concern that was not already recognized and/or treated. One hundred thirty-eight women agreed to participate (46% response rate), and 111 women had time to complete the SCOFF before their appointment and take it in with them. Of these, 18 (16%) produced a positive result, indicating a potential ED. In each case, the patient’s general practitioner was asked to note the screening result in their medical notes (the results were sent to the patient’s general practitioner if the initial appointment was with another health care provider). In only 4 of those 18 cases did the general practitioner record that there was a positive ED screen in their medical notes, and in just 2 of the 18 cases did the health professional note that treatment or a referral was offered for the identified eating problem. Johnston and colleagues conducted qualitative interviews to follow up on these findings which revealed that health professionals were unsure what action to take with a positive ED screen. In particular, they were not aware of all of the services available, not sure if particular services were appropriate for a given patient, and not sure of the value of treating subclinical disordered eating. This lack of knowledge and skills for working

with EDs is widespread, and will be expanded upon below. It is worth noting that despite the confusion among health professionals about what to do with screening information, the health professionals in this study rated the acceptability of screening for EDs quite positively ( $M = 5.9$  on a 7-point scale), revealing a willingness to engage in the process.

***Limited knowledge, confidence and skills.***

Many health professionals are not prepared to work effectively with people who have EDs. They lack detailed knowledge about the signs and symptoms of the range of EDs, and best practices for identification, management, and treatment. They lack the specific skills necessary to make appropriate diagnoses and assessments, and to consult, refer, and treat people with EDs. Many also lack confidence in their knowledge and skills. The result is that in some cases health professionals are aware of the real gaps in their competence, and in others they are not confident in their ability to use effectively the skills that they do have.

Physicians in general practice are often the first point of contact with the health system, and they will be considered first here. Deficits in knowledge and skills in managing EDs begin as early as medical school training. Banas, Redfern, Wanjiku, Lazebnik, and Rome (2013) surveyed all graduating students from US medical schools at the time and received 617 responses (a rate of about 5.4%). The low response rate necessitates caution in interpretation, but some instructive general themes emerged. The majority of respondents were not interested in EDs; a majority of respondents felt confident in diagnosing EDs, but about a quarter did not; and a majority did not feel comfortable treating an ED. Comfort with, and interest in, EDs was related to having faculty in the medical program in which they trained who had experience with EDs,

having an ED treatment program at the local hospital, and having seen patients with EDs during training.

The picture is not necessarily better once physicians are in practice. Based on their survey of UK primary care physicians, Currin et al. (2009) reported that diagnostic criteria for AN were correctly recognized 40% - 76% of the time, depending on the particular criterion. Recognition of physical symptoms associated with both AN and BN ranged from 31% - 98%. Clearly there is much room for improvement in recognition of common symptoms of EDs. The researchers also noted that physicians with higher knowledge levels were more likely to offer follow-up contact to a patient with an ED in a clinical vignette, highlighting the direct link between foundational knowledge and treatment behaviour. In another survey of general practitioners and nurses in Oregon, Linville, Benton, O'Neil, and Sturm (2010) produced several important findings: 78% of respondents had patients with EDs and were unsure how to treat them; 92% believed that they had missed an ED diagnosis in the past; and 67% endorsed a need for more continuing education on EDs, and access to experts for consultation and referral. Qualitative follow-up revealed that participants felt a need for more hands-on training, and training in collaborative care.

Linville, Brown, and O'Neil (2012) conducted a follow-up study to Linville et al. (2010) with a national survey of American physicians. They achieved a response rate of 29.2% from an original sample of 1000. This study produced a much broader range of data than its predecessor:

- 68% of respondents did not think about screening for EDs if it was not the presenting concern

- 41% said they had insufficient skill to screen for EDs
- 59% felt they had insufficient skill to appropriately deal with EDs
- 36% said there were not enough resources for them to manage EDs effectively
- 51% said when they asked patients about EDs, patients tended to deny or become defensive
- 57% want more continuing education on EDs such as workshops or conferences
- 77% had ED patients they could not treat, for the following reasons:
  - 51% said time constraints
  - 32% because it was not the presenting problem
  - 24% felt they were not trained to do so

The findings above paint a striking picture of a sizeable proportion of physicians who feel they are not skilled, knowledgeable, or confident in working effectively with EDs.

In Canada, the situation is quite similar. Clarke and Polimeni-Walker (2004) surveyed 500 Manitoba physicians, 201 of whom returned completed packages (40% response rate). Eighty percent of these physicians had seen individuals with EDs that they felt they could not treat for a number of reasons (including lack of skills, limited resources, uncooperative patient, severe illness, and limited time for complex cases). In addition, 77% said that they lacked the skills necessary to appropriately treat patients with EDs.

A study of Canadian psychiatry residents reveals that even those with specialist mental health training are not always well-prepared (Williams & Leichner, 2006). The researchers compared surveys of psychiatry residents in 1990 (180 participants, 100% response rate) to residents in 2004 (225 participants, 96% response rate) regarding their

training in EDs. At both time points a large majority of participants rated their training in EDs as generally inadequate (only 19% rated it adequate in 1990, and 24% rated it adequate in 2004). On a positive note, there was a moderate increase in the proportion of residents receiving any formal ED training in 2004. However, in 2004 61% of respondents noted that they had received just 3-6 hours of instruction focused on EDs in their entire medical education. In the UK, Jones, Saeidi, and Morgan (2013) conducted a survey of knowledge and attitudes about EDs among practicing psychiatrists. They found that the identifying features AN were not always correctly recognized: only 42% of psychiatrists identified amenorrhea as a diagnostic criterion (in the DSM-IV in use at the time), and the criterion most often correctly identified was “fear of fatness”, identified 88% of the time. Psychiatrists’ knowledge of identifying features for BN was similarly inconsistent: the most commonly correctly identified feature was “recurrent episodes of binge eating at least twice a week for 3 months” by 65% of psychiatrists, while “over-evaluation of shape and weight” was only correctly identified by 52% of the participants. A majority recognized family therapy and cognitive behavioural therapy as evidence-based therapies appropriate for AN, but a minority recognized other therapies recommended by NICE (National Institute for Health and Clinical Excellence, based in the UK); namely, cognitive analytic therapy, psychodynamic therapy, and interpersonal therapy. Thirty-five percent falsely believed that selective serotonin reuptake inhibitors (SSRIs) were a recommended therapy for AN. Finally, 61% of the sample felt confident in diagnosing EDs, but a mere 15% were confident in managing them. These studies make it apparent that deficits in knowledge and skills regarding EDs are present both in new trainees, as well as experienced clinicians, even among mental health experts.

A recent Canadian study extended this pattern of findings to physicians and psychologists who work specifically with children and adolescents who have EDs—the first study of its kind in Canada (Lafrance Robinson, Boachie, & Lafrance, 2013). The researchers surveyed professionals in Ontario and achieved a response rate of 21.5%, with a total of 153 respondents. They reported that 77% of the sample rated their overall comfort with child & adolescent EDs as either “low”, “very low”, or “none”. Even among psychologists who typically saw patients with EDs in their practice, just 45% rated their own assessment skills as “high”. More than 90% of the sample reported that they had patients with EDs that they could not treat. Those respondents indicated that the top three barriers preventing them from providing treatment were a lack of skills (cited 52% of the time), the complexity of the case (52% of the time), and a lack of resources (30% of the time). The authors provided a list of 15 training topics on EDs to the participants to gauge their interest, and 13 of the topics were endorsed by at least 30% of the sample as something they wanted to learn more about, indicating a strong and consistent need for more training on a wide variety of ED topics.

Another group lacking knowledge and skills related to EDs is nurses. Dichter, Cohen, and Connolly (2002) surveyed a random sample of California advance practice nurses about their knowledge and skills regarding BN. Despite some methodological weaknesses in the study design (such as the bulk of the data coming from an investigator-created instrument), some important trends emerged. Only about 25% of the sample knew the correct DSM-IV diagnostic criteria, and the majority rated themselves as “somewhat confident” or “not confident” in diagnosing BN, with a minority feeling

confident in their assessment skills. Nearly 85% reported feeling “not confident” in their ability to treat BN.

Guidance counsellors in schools are another professional group well-situated to identify and help people with EDs who are not yet connected to services, but they too lack the related knowledge and skills in many cases. An American national sample of school counsellors (Price, Desmond, Price, & Mossing, 1990) found that only 11% of respondents rated themselves “very competent” at helping someone with an ED, while 40% were “not very competent”. Harshbarger et al. (2011) conducted a similar study two decades later with school counsellors and school-based social workers in a Midwestern US state. Only 5.6% of the sample felt “very competent” identifying EDs, and just 1.9% were “very competent” at helping people with EDs. In corollary, 51.5% rated themselves “not very competent” identifying EDs, and 58.1% were “not very competent” helping someone with an ED. While the two preceding studies used different geographical samples, their results are broadly similar; it is apparent that there are serious gaps in knowledge and skills for working with EDs among school-based mental health professionals.

A revealing qualitative study was conducted by Reid, Williams, and Burr (2010) involving all 18 of the ED specialists in a large city in the UK, representing a wide range of professions and training backgrounds. Participants were interviewed regarding challenges in service delivery with patients who have EDs. One theme was the practical difficulty of providing complex services with limited resources. Consistent with other research reviewed in this section, one aspect of this theme was that participants described a serious lack of training in working with EDs, with many of them having been hired with



no previous experience and expected to learn on-the-job. It is particularly worrisome that even some professionals designated as ED experts feel ill prepared to manage these disorders, and participants identified very limited opportunities to receive continuing professional training.

In summary, the literature suggests that health care professionals who work with EDs generally feel underprepared, undertrained, and insufficiently skilled to work effectively with these patients. There are certainly some highly trained and effective professionals who work with people who have EDs. However, based on the literature, the average health professional appears to lack the confidence and skills necessary to successfully manage EDs. This broad deficit leads to a question: What can be done about the lack of capacity in this area of practice? Several of the articles in this section have provided one pertinent answer: more training.

### **Continuing Education**

The challenges associated with delivering effective continuing education (CE) are the conceptual focal point of this research endeavour. The topic of the present training—eating disorders (EDs)—provides some unique elements and challenges, but in large part the impetus for CE (i.e., a lack of knowledge and skills about a particular issue) can be applied to a wide range of topics in healthcare and beyond. Likewise, the strategies and elements comprising effective CE that will be explored in this study can be applied to a wide range of training programs.

The literature in CE for health professionals is vast, although some of the most extensive research has been done with physicians (who refer to the topic as Continuing Medical Education, or CME), while there is less focus on other professional groups.

There is a small body of literature focusing on Continuing Interprofessional Education, (CIPE) which is a specialized form of continuing education focused not only on disease specific content but also on the importance of working collaboratively with a diverse group of professionals to manage chronic complex diseases. Aspects of that literature are reviewed in this dissertation as they are particularly relevant to the present project.

### **Other methods of behaviour change.**

There are many effective ways to change practice behaviour aside from continuing education. Incentive programs reward people for performing the desired behaviour, using money, other material items, or intangible rewards (praise, recognition, special treatment, etc.; e.g., Covell et al., 2016). Even small or token incentives can have an effect on behaviour, although incentives are easier to apply to specific and concrete behaviours, and more difficult to use in complex situations (e.g., Judson, Volpp, & Detsky, 2015). Social pressure can also be used on a small or large scale to take advantage of individuals' desire to be seen positively by others, and to act according to the norms of their peer group (Ajzen, 1991). Awareness campaigns can have an impact on behaviour, but they are most likely to work when the change is easy to make and the benefits are obvious (Stone et al., 2002). Legislation at the provincial or federal level is, potentially, a very effective way to change certain behaviours. However, the disadvantages of legislation are that it takes a long time to implement changes, and it applies best to fairly discrete and specific situations; it is not feasible to regulate the details of complex health care professional practices in this way (Stone et al., 2002). Organizational rules or policies are another alternative that have the potential to be a very effective guide for behaviour change, and they can be created by professional

organizations or health care organizations for example, or subgroups within those bodies.

A similar strategy, providing organizational support for a desired behaviour (both at a social level, and a material or logistical level), can help to make the desired behaviour much easier to perform, and therefore more likely (Stone et al., 2002).

There are other ways to change behaviour, but these are some of the more common and general strategies used to change the practice behaviour of health care practitioners. It is important to note that, particularly with complex and highly skilled behaviours, a person must have the requisite knowledge, skill level, and confidence to perform the behaviour in the first place, in order for any behaviour-change strategy to have an effect. The present project was focused primarily on providing effective CE, including increasing participants' relevant knowledge, skills, and confidence, while also implementing some elements of the above strategies to help influence attendees' practice behaviour.

### **Types of continuing education.**

Within the realm of CE, there are several commonly-employed methods, of which a workshop format is only one. Individual reading is perhaps the most common and accessible form of continuing education, and many or most health care professionals engage in some amount of reading on topics that they find interesting, relevant to their practice, or valuable for improving their skill-set. Practical skills training is another option that is particularly useful when learners already have the necessary background knowledge, the skill is able to be improved with repeated trials and feedback, and practicing the skill in a controlled setting helps to avoid harm to patients. The Royal College of Physicians and Surgeons of Canada lists several accepted types of continuing

education (to which they refer as continuing professional development, or CPD), including conferences, workshops, seminars, rounds, journal clubs, self-assessment programs, simulation activities, web-based learning activities, self-directed reading, formal courses, and other activities (Royal College of Physicians and Surgeons of Canada, 2017a, 2017b). While some CE programs fit neatly into one category, many blend two or more of these elements together in an effort to find the most effective method of changing practice behaviour.

### **Effectiveness of workshops.**

There are myriad published articles on the effectiveness of particular workshops on a wide array of topics, and many reviews of continuing education more broadly. Cervero and Gaines (2015) reviewed a set of recent systematic reviews of CME to answer two broad questions: Is CME effective? and What types of CME are most effective? In answer to the first question, numerous large-scale reviews have concluded that in general, CME is effective at changing physician knowledge, attitudes, skills, behaviour, and patient outcomes, although the later items in the list are more difficult to change than the earlier items. On the second question, Cervero and Gaines noted that while distributing printed educational materials or offering solely didactic presentations were not very effective, more effective options included interactive training techniques, using multiple media or methods, and offering multiple exposures.

A specific example of continuing interprofessional education is provided by Carpenter (1995), who reported on a one-day education module for medical and nursing students, situated in a larger series of interprofessional training activities. This particular module consisted of workshop components, shared small-group activities, and case

studies. Thirty-nine students participated in the study by completing pre- and post-training surveys. After the training, students in both professions indicated significantly increased knowledge about the other profession, and significantly improved attitudes towards them as well. While the gains were quite modest in magnitude (for example, one of the smaller increases was medical students' knowledge of nurses, which changed from 4.6 to 4.74 on a 7-point scale), the qualitative comments made by participants seemed to show a new appreciation for the value of the other group, and the program was generally regarded as successful by the study's author.

In the literature there are also examples of workshops focused on EDs, designed for different professional groups, which help to demonstrate the merits of this strategy. In one workshop, high school teachers and administrators participated in a program designed to improve attitudes (i.e., beliefs about the seriousness and treatability of EDs, and a desire to help people with EDs) and knowledge about EDs, and improve recognition of students with signs of a possible ED (Chally, 1998). Due to time constraints, the training was compressed to 1 hour, covering symptoms, causes, and intervention with AN, BN, and compulsive eating. Pre- and post-workshop measures were completed by 85 workshop attendees and 32 controls, and the number of students that each participant identified as being at risk of having an ED was measured over three months. There were no differences between the experimental and control groups in attitudes or knowledge at pre-test. General knowledge about EDs was significantly higher in the workshop group at post-test compared to the controls (an effect size was not reported, but from the information provided an effect size of Cohen's  $d = 0.86$  can be calculated using the control group's  $SD$ , which is a large effect). In addition, workshop

attendees identified significantly more students at risk of having an ED (3.42 per person) than the control group (2.60 per person) over the course of the follow-up period. A notable limitation of this study is the use of unvalidated researcher-created instruments for measuring attitudes and knowledge. Nonetheless, these results appear to be clinically significant, demonstrating that even brief training on EDs can have an important impact.

Another valuable example comes from a Norwegian multi-session educational program on EDs called “Body and self-esteem”, focused on evidence-based interventions, methods for assessment and diagnosis, cultural aspects of care for EDs, recent research, and the patient’s perspective on care (Rosenvinge, Skårderud, & Thune-Larsen, 2003). The training was comprised of 17 days over 1.5 years, consisting of activities such as preliminary reading, didactic instruction/seminars, plenary discussions, workshops, small group discussions, and group supervision. The content of the training included psychodynamic therapy (traditional in Norwegian psychiatry), as well as evidence-based modalities: family therapy, and cognitive behavioural therapy in individual and group formats. It also covered cultural factors relevant to EDs, routine and comprehensive assessment procedures, at-risk populations, primary prevention, and a consumer perspective on services for EDs. The group supervision sessions were led by an expert in the field of EDs and consisted of interactive training and feedback on key clinical issues. For the supervision, participants were divided into groups corresponding to their geographical location to aid in networking. Seventy-eight health professionals participated; primarily nurses, social workers, physicians, and psychologists. The researchers evaluated changes in attitudes towards EDs and satisfaction with the training using standard Likert-scale questions, and they examined clinical knowledge and

competence using the Eating Disorder Competence Index (EDCI), a knowledge-based questionnaire which has been previously validated (Johansen, 1999) and has acceptable psychometric properties. Attitudes were defined by the researchers as agreement with statements about treatment choices that “might be more open to various professional opinions”, in contrast to the more concrete content on the EDCI. Pre-post comparisons revealed a significant but moderate gain on the EDCI from 12.8 to 14.6, out of a possible 24 items (effect size was not reported, but can be estimated from information provided at around Cohen’s  $d_{AV} = 0.6$ , a medium effect). Minor improvements were revealed in attitudes about EDs, with most item responses changing in the desired direction but non-significant. The mean overall satisfaction with the program was 5.6, on a 10-point scale. Participants noted that they would have liked more time to learn practical skills, strategies for managing complex cases, and how clinical theory relates to practice. One possible explanation for the modest EDCI gains is that while assessment was completed post-training and not technically after a follow-up period, the training had happened over the previous 1.5 years, which is long enough that concrete knowledge learned in the beginning might tend to fade over time. Another possible explanation for such an extensive program producing only moderate changes is that there was insufficient opportunity to practice skills in a controlled setting, as many participants noted in their feedback. It is also interesting to note that despite the large quantity of total time invested in training (especially compared to other efforts, such as that described by Chally [1998] above), improvements were still only of moderate magnitude. While this study describes a reasonably effective training endeavour, it raises questions about precisely which elements make continuing education most effective. This publication did not provide

certain details that might help to compare it to other research from a theoretical perspective, such as details about who provided the training (aside from being experts), participant attendance rates, and how closely the content of the training mapped onto the evaluation instruments.

A brief workshop on EDs for primary health care providers was offered by Linville, Aoyama, Knoble, and Gau (2013). It consisted of a 60-75 minute session, including a didactic presentation, printed resources, and question and answer period. The workshop focused on how to administer the Eating Disorder Questionnaire (EDQ) for screening potential cases, and general topics such as prevalence, risk factors, diagnosis, assessment, and treatment of EDs. Forty-five health care providers participated, including nurses, nurse practitioners, and physicians, 26 of whom (58%) responded at all three survey time points (pre, 1 week post, and 6 month follow-up). The researchers found that self-rated knowledge and skills in working with EDs increased substantially from pre to post (approximately 1 point each on a 5-point Likert scale, with effect sizes of  $d = 1.25$  for knowledge and  $d = 1.31$  for skills—both very large effect sizes), and these gains were retained at follow-up. Attitudes/beliefs about EDs did not change significantly overall, although several items did improve from pre to post, and remain significantly improved at follow-up. To my knowledge, this is the first follow-up study of continuing education for EDs among primary health care providers. It has some limitations including a small sample and reliance on an unvalidated self-report questionnaire. However, it provides an important precedent for the maintenance of learning in this type of training.



McCormack, Watson, Harris, Potts, and Forbes (2013) reported on a community-based ED training effort in Australia. One of the primary aims of this program was to reach the many rural areas in the western part of the country. One or more workshops were tailored to the needs of each geographic area where training was offered, typically 1-3 hours each, and including didactic and interactive elements. More than 500 health professionals and educators (i.e., working in high schools) attended at least one of the training sessions; 280 educators and 148 health professionals returned pre- and post-training surveys. The exact response rate was not reported. The outcomes were measured very simply, with a single 5-point Likert scale question for each outcome area: knowledge, confidence, and competence (in order to be consistent with each group's scope of practice, health professionals were asked to rate their competence to provide support and treatment to people with EDs. Educators were asked to rate their competence to identify and support people with EDs). Each of the outcomes improved significantly from pre- to post-training (about a change of 1 full point on each 5-point scale), with large effect sizes, and the training was rated very useful by the participants. McCormack and colleagues reported anecdotally observed increased skills and confidence in the provision of ED services, more streamlined referrals, more interprofessional collaboration among service providers, and better communication between rural and urban areas. Notably, the evaluation consisted of very few questions and was wholly self-report, so caution is recommended in interpreting the results. In addition, it is not clear how much variability there was in the amount of training participants received given that the researchers reported providing one or multiple workshops from 1-3 hours each, and there was no reported examination of whether the quantity of training was related to the

magnitude of outcome changes. Nevertheless, this study offers a preliminary demonstration of the effectiveness of community capacity building—improving the ability of communities and front-line professionals to respond to and manage EDs—through continuing education on EDs.

Two programs provide particularly relevant and informative models for community-based continuing education. The first is a 10-session training program on interprofessional mental health care, delivered to 6 rural Canadian communities, primarily by videoconference (Church et al., 2010). One hundred twenty-five health professionals representing fifteen training backgrounds participated in the program, with 49 (39%) of those completing the pre and post questionnaires. Some of the important features that were designed to enhance the program's effectiveness were sessions that were spaced out over time (biweekly for 20 weeks), many interactive activities, fostering good relationships between the facilitator and the participants, and having a local community coordinator in each geographic area. The surveys indicated that the program created significant improvements in participants' confidence in using a broad range of therapeutic styles and techniques, and in managing patients with certain mental health issues (but results were not significant for all mental health issues). Qualitative data from follow-up focus groups revealed that participants felt that the program had helped them to maintain a more reflective and self-aware practice, integrate new knowledge, skills and attitudes into their regular practice, learn more about community resources, and build referral networks. Participants also specifically noted the positive impacts of several of the design elements noted above: interactive and experiential small-group exercises allowed for practicing of new skills, the spaced-out sessions allowed them to try new

skills and come back to the group for feedback, and the local community coordinator helped to maintain the connection between the participants and the facilitator. They added that a positive and validating experience with the facilitator was valuable. In a later publication using the same data set, Heath et al. (2015) reported that there was a significant increase in positive attitudes towards interprofessional mental health care from pre- to post-intervention. Feedback ratings were high, with a very large majority of respondents selecting “agree” or “strongly agree” regarding statements of the training’s impact on knowledge of interprofessional care. Unfortunately, the researchers did not directly assess behaviour changes in the participants, so the results are susceptible to a self-report bias. Regardless, this program was deemed to be quite successful at accomplishing its goal of increasing interprofessional collaboration and the quality of mental health services being offered.

The second especially relevant model is provided by McVey et al. (2005). A long-term program was run from 1995 to 2002 across the province of Ontario designed to improve the standard of care for patients with EDs through workshops and other strategies. Three thousand three hundred and fifteen health professionals from many different fields participated in the workshops, either centralized in Toronto or conducted locally in other Ontario communities. The program was designed to increase knowledge of EDs, increase comfort in treating EDs, and foster interprofessional communication. Four training modules were offered, encompassing assessment, treatment, and prevention for EDs. The training included didactic, audio-visual, and printed material elements, and sessions were three to six hours in length. Additional specialized training in intensive treatment was provided over four days to some interdisciplinary teams. Program staff

maintained contact with a large subset of participants ( $n = 697$ , 21% of the total  $N$ ) through consultation and additional training on specific issues. Participants were also offered treatment manuals and reference materials free of charge. The workshops resulted in significant increases in self-reported ED knowledge, knowledge of body image issues, and confidence in treating EDs. Further, 65% of participants believed that the workshops would increase their interprofessional links. This study demonstrates the potential effectiveness of targeted workshops for EDs among a wide range of health professions, and across a large geographical area. One important limitation of this work, like many of the others discussed, is that behaviour or practice change was not directly assessed, but it is otherwise an excellent model for using continuing education to build community capacity to work effectively with EDs.

In summary, the literature indicates that continuing education, and in particular workshops, can be an effective tool for training health professionals on a variety of topics, including EDs. However, there is a wide range of effectiveness between different programs. Clearly, there are variable elements that make continuing education more or less effective in each case; these factors have been studied systematically, and will be discussed in detail below.

### **Increasing the impact of continuing education.**

The fundamental question to ask when examining the impact of a continuing education intervention is *are the participants doing anything differently as a result of the intervention?* The robust literature on behaviour change and persuasion provides invaluable guidance in understanding interventions that effectively change behaviour in desired ways. Icek Ajzen's Theory of Planned Behaviour (TPB; Ajzen, 1991; Ajzen,

2002) provides one such model of behaviour change that has been well studied and widely accepted. Ajzen's theory asserts that three factors, namely, *attitude* towards a behaviour, *subjective norm* regarding the behaviour, and *perceived behavioural control* over the behaviour all interact with each other, and influence the *intention* to perform that behaviour. Intention then has a direct impact on whether a person will perform the behaviour or not. See Figure 1.

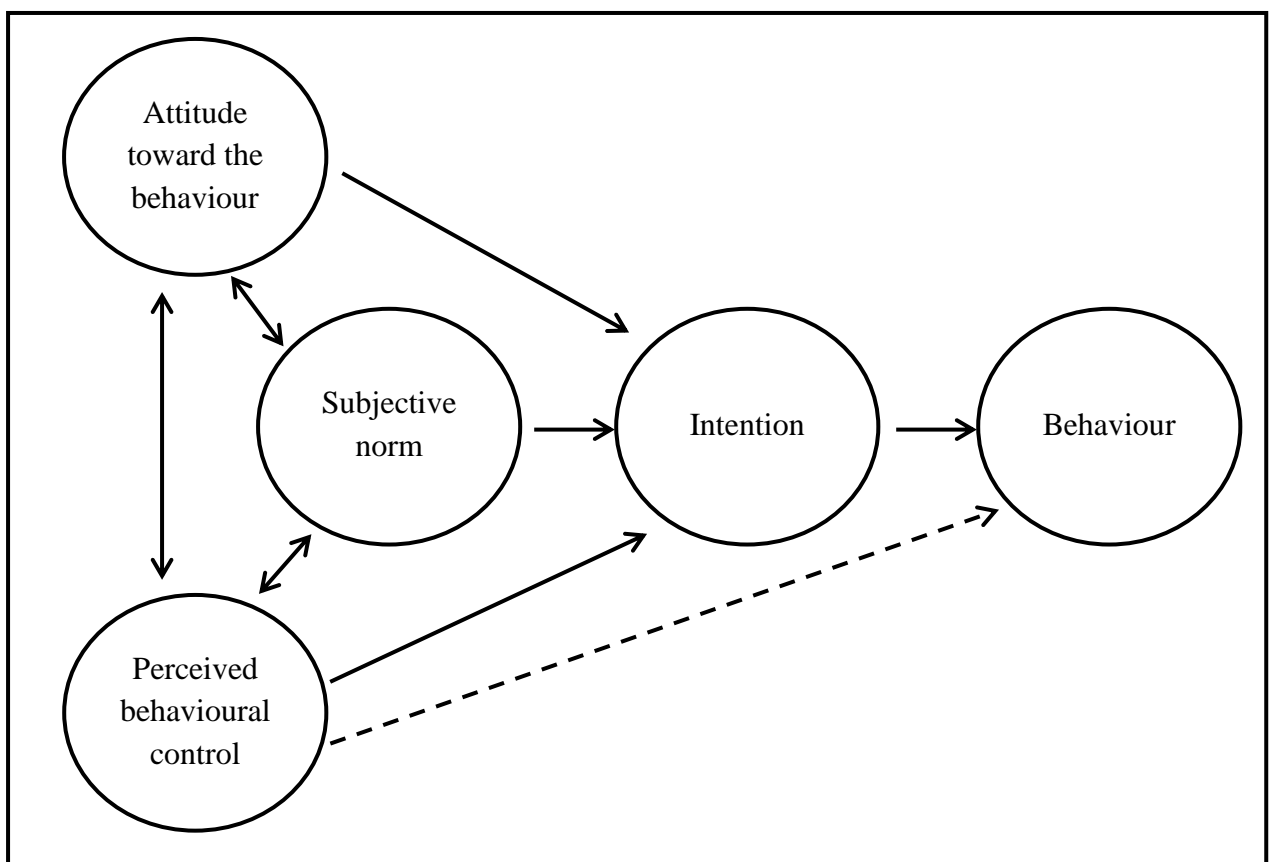


Figure 1. Ajzen's Theory of Planned Behaviour. Adapted from Ajzen (1991).

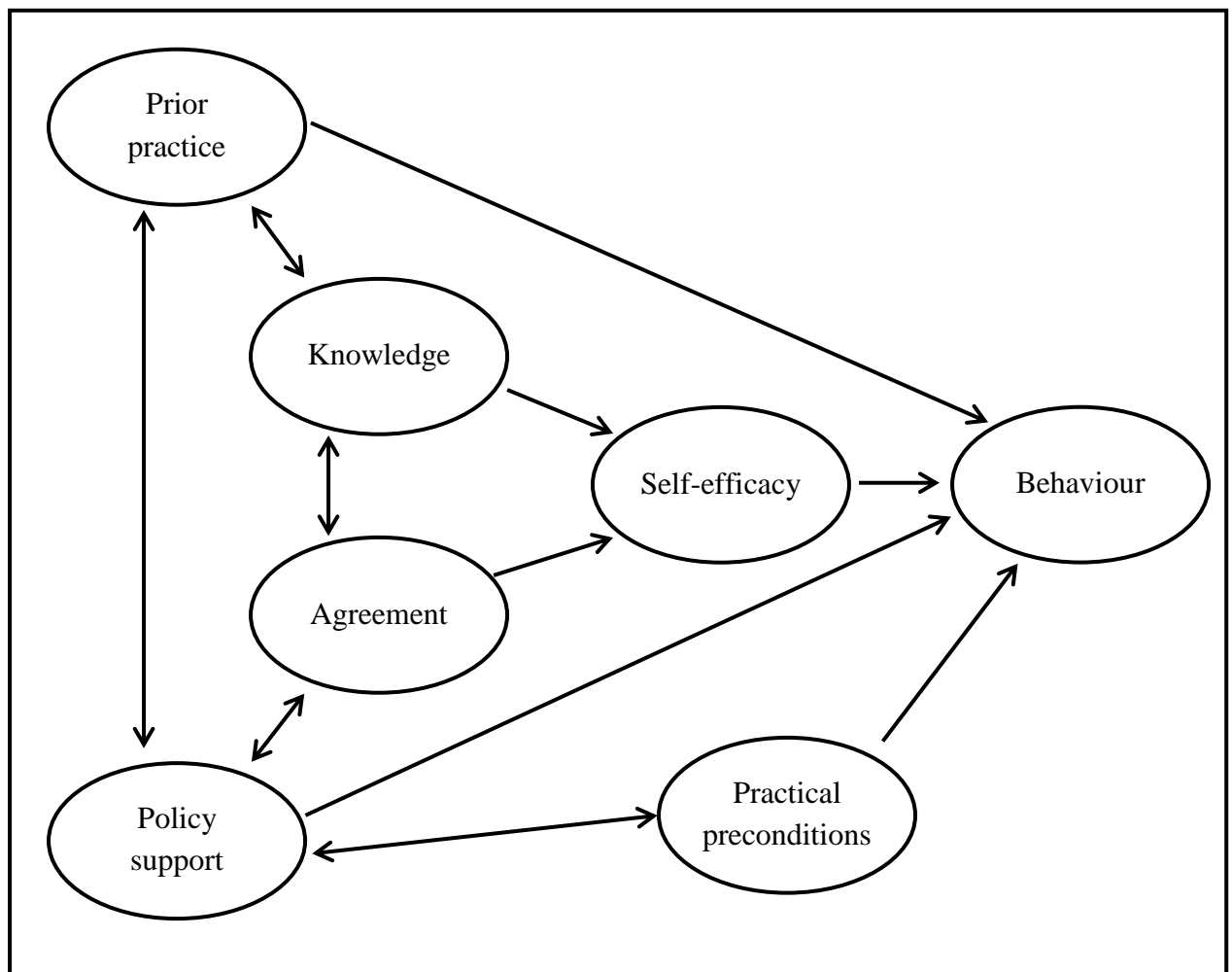
The *attitude* towards a behaviour refers to the way in which a person evaluates that behaviour. This appraisal may be anywhere on the spectrum from favourable to

unfavourable, and essentially encompasses beliefs about whether the behaviour is useful, worthwhile, or good. The *subjective norm* is the perception of social pressure that is felt to perform or not perform the behaviour, or the beliefs that one has about the expectations others hold about one's performance of that behaviour. What matters is not overt or explicit pressure, but the subjective experience of pressure which may be explicit or implicit. The third factor is *perceived behavioural control*, and it refers to the subjective assessment of the ability of the individual to perform the behaviour. This factor includes past experiences of performing or attempting to perform the behaviour, witnessing others perform or share information about the behaviour, knowledge about the situation and context in which the behaviour might take place, and assumptions about other factors outside the individual's control that might affect their ability to carry out a behaviour.

For each behaviour, Ajzen's factors interact in unique ways depending upon the particular features of the situation, and each factor may be weighted differently. For this reason they cannot be assumed to be equal contributors to a person's intention to perform a behaviour, and ultimate decision to perform it or not. Nevertheless, an optimal strategy for increasing the likelihood of a particular behaviour being performed should target all three of these factors, *attitude*, *subjective norm*, and *perceived behavioural control*. This framework provides a starting point for designing educational programs meant to change practice behaviour in health professionals. In reviewing literature testing the TPB, Ajzen (1991) found that *intention* and *perceived behavioural control* combined were good predictors of behaviour, with correlations ranging from  $R = .2$  to  $R = .78$ . Notably, the lower correlations were found with behaviours that appear more difficult to control, such as losing weight or getting an "A" grade in a course. Higher correlations were related to

behaviours deemed to be more clearly a matter of volitional control, such as voting choice.

Other models have also been used to explain and predict practice change. For instance, Umble, Cervero, Yang, and Atkinson (2000) studied the effects of classroom-based vs. distance-based continuing education to train medical professionals to adhere to practice recommendations for a vaccine schedule. A total of 312 people, largely nurses, participated in the study. The results indicated that both modes of education were successful in increasing knowledge on the subject, agreement with the material, self-efficacy, and ultimately in creating practice change, with classroom-based education appearing to be slightly more effective by some measures. However, what is particularly useful in this research is the model of predicting behaviour and professional practice change that the researchers used (see Figure 2). In this case, the behaviour being measured was adherence to the recommended vaccination practices.



*Figure 2.* Umble et al. model of behavioural adherence. Adapted from Umble et al. (2000).

Umble et al. (2000) posited that two variables, knowledge about the behaviour in question (in this case, the polio vaccination schedule) and agreement with the behaviour (i.e., positive or negative attitude towards the vaccination schedule) are both correlated with self-efficacy (defined as a person's belief in their ability to organize and successfully execute a particular behaviour). In turn, self-efficacy is believed to directly impact behaviour—in this case, adherence to the polio vaccine schedule. Additional variables that predicted this behaviour are one's prior practices (i.e., whether one's prior



vaccination behaviour was similar to the recommendations made in the training), organizational policy support (measured by asking for participants' perceptions of their organization's support for these recommendations), and the actual availability of the vaccine as a practical precondition.

All of the theorized relationships between variables in Umble et al.'s (2000) model were found to be statistically significant. The researchers provided standardized path coefficients (SPCs) for these relationships, "which can be viewed as a standardized regression coefficient for 1 variable in relation to another when the effects of all the other variables are partialled out". Several of these variables directly predicted behaviour: self-efficacy ( $SPC = .312$ ); prior practice ( $SPC = .100$ ); policy support ( $SPC = .523$ ); and vaccine availability ( $SPC = .109$ ). These variables predict approximately 9.7%, 1.0%, 27.4%, and 1.2% of the variance in behaviour, respectively.

The variables in the Umble et al. (2000) study were developed based on several different theoretical models of behaviour change, including the Theory of Reasoned Action which Icek Ajzen co-authored prior to creating the Theory of Planned Behaviour. Several similarities can be noted between the Umble model and the TPB: *agreement* in Umble et al.'s (2000) model is quite similar to *attitudes* in the TPB, as both are related to beliefs and thoughts about whether the behaviour in question is right, good, productive, or worth doing. *Self-efficacy* in this model is also very similar to *perceived behavioural control* in the TPB, as both fundamentally capture a person's beliefs or predictions about their ability to engage in a particular behaviour, should they choose to. Finally, *policy support* is somewhat similar to the TPB's *subjective norm*, although narrower in its focus. *Policy support* refers only to perceptions about whether one's organization provides

concrete/structural support or more relational/social support for a behaviour, whereas *subjective norm* would include one's organization, but also perceived approval or disapproval from colleagues, friends, or other important groups.

An important difference between the models is Ajzen's (1991) positing of the construct of *intention* prior to performance of a behaviour, which is presumed to capture motivational factors such as how hard a person is willing to try, how much effort they are willing to expend, and whether they plan to perform the behaviour in the future. In contrast, the Umble model places *self-efficacy* as a direct predictor of behaviour, without an intervening *intention* variable. In addition, the Umble model uses *self-efficacy* to mediate the relationship between *agreement* and the behaviour, as opposed to Ajzen's *intention* mediating that relationship. Umble et al. (2000) did not discuss the theoretical reasons for leaving out *intention*. It appears to be theoretically possible to insert *intention* as a final mediator of behaviour, but it may be that it would not add further predictive power to the model.

A second important difference is Umble et al.'s (2000) consideration of an additional concrete factor (i.e., actual availability of a vaccine, or more generally, practical preconditions of performing the behaviour) and two additional personal factors (knowledge and prior practices). These factors provide additional predictive power to the model through prior behaviour's direct effect on behaviour as noted above, and knowledge's indirect effect on behaviour through its effect on self-efficacy ( $SPC = .319$ ). In summary, both of these models provide several targetable variables with demonstrated links to behavioural outcomes, which provides focus in developing educational interventions.

Bloom (2005) conducted a review of systematic reviews of the effectiveness of different modalities of CME, encompassing 26 reviews. Eight different CME modalities (educational techniques) were included in these studies, and each was rated for its effectiveness in changing physician practices. In general, basic didactic techniques and providing printed materials alone displayed no effect or low effect in the various reviews. A variety of interactive techniques proved more valuable, typically producing medium or high effects on physician practices. In particular, these techniques include interactive education between practitioners and educators (e.g., role playing, practicing skills), auditing and feedback regarding a person's clinical decisions (e.g., a review of notes or period of observation, followed by recommendations), specific reminders for particular diagnoses or circumstances, and academic outreach/detailing (i.e., personal visits to a physician to provide current information on best practices). There is also moderate quality evidence supporting the impact of opinion leaders (professionals recognized as experts who can set norms in their field) and clinical practice guidelines (structured guidelines detailing the most current evidence-based diagnostic and treatment strategies). The authors note that unfortunately, the least effective techniques (didactic lectures and distributing printed material) are the most frequently used. However, it is clear that there are a number of effective education methods, and the effectiveness of educational programs can be improved by appropriately incorporating these techniques.

Several other design factors have been noted to improve the effectiveness of CME. In a review of the effectiveness of CME conducted by Davis et al. (1999) the authors found that, similar to the findings of Bloom (2005), interactive and mixed interactive/didactic presentation styles led to better outcomes than didactic training alone,

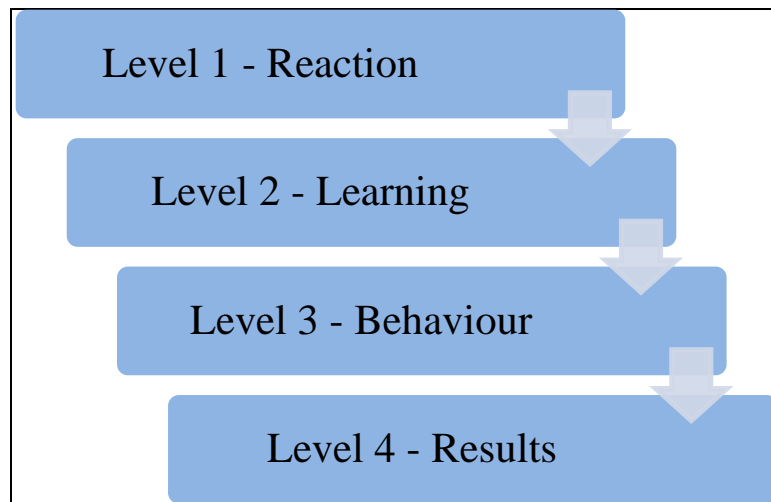
and having a series of education sessions was typically more effective than a single session. Further, in a more recent large-scale review by Marinopoulos et al. (2007), the finding that multiple exposures were more effective than single exposures was confirmed. In addition, these authors reported that in-person presentations were significantly more effective than print-based information, and multimedia presentation was more effective than single-medium presentation. Finally, interpersonal and interprofessional contact is a key element in helping different professionals learn to work together through continuing education (Carpenter & Hewstone, 1996). Particularly in the case where interprofessional collaboration is a targeted outcome, this sort of contact and working on shared tasks can be a powerful learning tool in training endeavours. Evidence suggests that interprofessional education can improve attitudes towards other professions, increase knowledge about the skills and roles of other professions, and improve the ability to work together effectively among professions (Carpenter & Hewstone, 1996).

In summary, there is a robust literature describing elements and methods that make up effective continuing education. Unfortunately, some of the easiest methods of sharing information (i.e., distributing printed materials or giving a plain didactic presentation) produce the smallest effects, and these methods continue to be common. However, with some effort, knowledge, and creativity, it is possible to design effective continuing education programs.

### **Evaluating Continuing Education**

There is a tendency to assume that trainees will learn from training and implement new skills, but this should not be taken for granted (Bloom, 2005; Cervero & Gaines, 2015). It is important to carefully evaluate the impact of training or continuing education

to determine if it is effective. The four-level model created by Kirkpatrick (1996) provides a framework for evaluating training programs, such as workshops, at different levels. This model (see Figure 3) was used in the present study to guide the evaluation.



*Figure 3.* Kirkpatrick's Model of Evaluating Training Programs (Kirkpatrick, 1996)

The first level is reaction, which can be summarized as “how well trainees like a particular training program”. Reaction is about the trainees’ feelings and opinions about the training. It is an easy construct to access and therefore is frequently assessed in the form of trainees’ feedback and personal evaluation of the training program. It is important to measure because if people enjoy the training and find it interesting it is more likely to be of benefit. By the same reasoning, if participants dislike a training program, they will be unlikely to accept the information being conveyed or to change their behaviour.

Level two is learning: Participants must be able to absorb and remember techniques, information, and principles. Kirkpatrick (1996) recommends that learning of information and skills be evaluated objectively and quantifiably, with a measure

administered before and after the training to assess change. Learning is more difficult to evaluate than reaction, but it is valuable to do so. In Ajzen's (1991) and Umble et al.'s (2000) models, these factors (i.e., *knowledge*, *attitudes*, *perceived behavioural control*, and *self-efficacy*) predict related behaviours. Ensuring that participants effectively understand the information being taught and can remember new skills provides the preconditions for success at level three.

Level three is behaviour, or the effective implementation of learning in real-world situations. It is frequently assumed that changes in knowledge and skills will automatically lead to changes in behaviour, but this is not always the case. Consistent with theories of behaviour change (Ajzen, 1991; Umble et al., 2000), knowledge and skills may help behaviour change, but there are more factors at play: behaviour change can also be affected by a trainee's motivation to improve, attitudes and beliefs about the value in changing their actions, an environment that allows and supports behaviour change, and help from someone skilled (which may operate through the other variables in the models described). Changes in behaviour are more difficult to measure than the first two levels, but even more important. Kickpatrick (1996) suggests, among other things, allowing sufficient time for behaviour to change before measuring it, surveying or interviewing the participants involved, and using a control group if feasible. Behaviour change is commonly one of the primary outcome measures of training programs.

The fourth and final level is results—the ultimate goal of a training program. Results can be measured in a variety of ways. In the case of the present study, results could be focused on patients' service use and access (i.e., if patients were more likely to be referred for services, or if more service providers were available), the quality of

services offered, expenses of public services, patient satisfaction, and changes in patient health outcomes. Measurement of results is the most difficult of the four levels. While such measurement provides the most direct evidence of the effectiveness of training, it is not always feasible or possible to gather valid and reliable measures of this level of impact. Additionally, it can be difficult to directly tie changes in results to the intervention that was used, due to the variety of uncontrollable factors involved.

### **History of the Eating Disorders Interprofessional Community Capacity Building (EDICCB) Project**

The EDICCB team was created to address gaps in services for people with eating disorders (EDs) in the province of Newfoundland and Labrador, which were especially prominent in rural regions given the province's widely distributed population (Brems, Johnson, Warner, & Roberts, 2006). It was also predicated upon the view that non-specialist mental health professionals can provide effective interventions with EDs (particularly in early and uncomplicated cases), that specialist programs may not meet all of the needs of a person with an ED or their family, and that there was a need for more continuing education about EDs (Heath et al., 2012). The team is comprised of highly qualified health professionals from a variety of fields including psychology, clinical nutrition, occupational therapy, psychiatry, adolescent medicine, nursing, and social work who specialize in providing care to those affected by EDs and their families.

The EDICCB project was supported through funding from the provincial government and the Eating Disorder Foundation of Newfoundland and Labrador (EDFNL). Ongoing collaboration with, and support from, the provincial government,

EDFNL, and the regional health authorities was also essential to the project's ability to carry out its aims.

The EDICCB team worked to design the most effective training intervention to meet the needs of health professionals across the province. To this end, they ran a series of two-day workshops across Newfoundland and Labrador in 2010 and 2011 for over 350 practicing professionals designed to teach basic skills in the areas of prevention, identification, early intervention, referral, follow-up and collaborative care in working with people affected by EDs. The goals of the project were to (1) increase knowledge, confidence, and skills in collaboratively managing EDs; (2) to encourage interprofessional collaboration; and (3) to improve the quality of evidence-based care that people with EDs receive across the province (Heath et al., 2013). As part of the project, "Eating Disorder Education Toolkits" were distributed to workshop attendees, in order to help health professionals effectively manage all stages of caring for a patient with an ED in an evidence-based manner. The toolkit included a binder of information, illustrative videos, and reference materials such as packaged screening tools and psycho-education treatment programs. Further, for one year after the final workshop the EDICCB team conducted bi-monthly conference call discussions with interested participants to offer support for continuing to change practices and maintaining changes already made.

A select interprofessional group of participants in each of the six communities where a workshop took place volunteered to be part of the Community Facilitation Group (CFG), thereby making a special commitment and taking on extra responsibility to promote the workshop and practice change in their geographical area. The members of the CFG were conceptualized as champions of the ideas that were shared in the



workshops. This ‘champion’ model has been found to be very effective at promoting systemic change in a health care context in terms of motivating people to adopt new behaviours, work beyond their traditional role, and contribute to innovation (Hendy & Barlow, 2012).

Preliminary results of the intervention were positive: In the pilot study, using the data from the first workshop in the series, Heath et al. (2013) concluded that both self-rated knowledge and confidence increased significantly from pre- to post-intervention with large effect sizes, attitudes toward interprofessional healthcare improved significantly, and perceptions of participants’ own skills in interprofessional collaboration (IPC) and the need for IPC became significantly more positive post-intervention. Although the 6-month follow-up participation rates were low, a majority of respondents indicated that their practice had changed, and they had implemented content from the workshop. Presented data from the full implementation of all of the workshops are similarly positive: pre-post comparisons reveal significant positive impacts with large effect sizes on attitudes toward collaborative care for those affected by EDs (eta squared = .19, a large effect), ED knowledge (eta squared = .73, a large effect) and confidence (eta squared = .69, a large effect) in managing EDs (Heath et al., 2012).

More recently, the EDICCB team collaborated with EDFNL to offer a more advanced follow-up interprofessional workshop in April 2012. The advanced workshop was intended to be the final stage of the larger project and there was an attempt to ensure that as many of the original workshop attendees as possible were informed about this follow-up workshop. The purpose of this advanced workshop was threefold: (1) to teach advanced skills that are directly applicable in the management and treatment of EDs, (2)

to foster further interprofessional collaboration among health professionals when dealing with EDs, and (3) to increase accountability for practice change in the attending health professionals so that they would be more likely to implement the knowledge and skills that they learned.

The workshop was presented by Dr. Joanne Dolhanty and Dr. Adele Lafrance Robinson, two psychologists from Ontario who have been pioneering new approaches to treating EDs. The presenters taught an innovative combination of Emotion Focused Therapy (EFT) and Family Based Therapy (FBT) for EDs across the lifespan. FBT is empirically supported, and has been found to be as efficacious for adolescent EDs as individual therapy with psychodynamic and cognitive-behavioural features (Lock et al., 2010). For other mental health issues, EFT has good empirical support (e.g., for mood disorders; Goldman, Greenberg, & Angus, 2006). While the literature on EFT for EDs is limited, there is promising preliminary evidence for its effectiveness with this population (Dolhanty & Greenberg, 2008; Johnson, Maddeaux, & Blouin, 1998; Money, Genders, Treasure, Schmidt, & Tchanturia, 2011; Wnuk, 2011). EFT and FBT each have some support in the treatment of EDs, but their combination is novel, and is guided by an understanding of core issues in EDs including attachment and emotion regulation.

The etiology of EDs is best conceptualized from a complex biopsychosocial model which includes a variety of interacting factors (Culbert, Racine, & Klump, 2015; Southgate, Tchanturia, & Treasure, 2005). One of these factors is negative emotionality or difficulty with emotion regulation, which predicts ED symptoms and diagnosis and is theorized to be a contributing causal factor in the development of eating pathology (Culbert et al., 2015; Southgate et al., 2005). In particular, EDs can be viewed as an

attempt to manage or escape from unpleasant or overwhelming emotions that an individual feels unable to otherwise handle (Lafrance Robinson, Dolhanty, Stillar, Henderson, & Mayman, 2016). While FBT for eating disorders is sometimes viewed as an atheoretical and practical approach to treatment in terms of the etiology of the disorder, it includes an implicit focus on changing the patterns of behavioural reinforcement in the family that can maintain the ED (Loeb, Lock, Greif, & le Grange, 2012). Disrupted early attachment (i.e., when a child does not experience consistent support and care from a loving caregiver) and subsequent attachment patterns later in life have also been theorized to contribute to the development of EDs (Pearlman, 2005; Southgate et al., 2005). In the EFT and FBT model of treatment for EDs, parents are viewed as a critical partner in treatment and change agent in helping individuals recover from EDs, both with adults and with children (Lafrance Robinson et al., 2016). Both of these areas of research informed the particular activities of EFT and FBT developed and presented by Dr. Dolhanty and Dr. Lafrance Robinson in the workshop.

It was recognized that these techniques represent very complex sets of skills and knowledge, and that not all professionals who may be involved with people with EDs would use these types of psychotherapeutic skills directly. However, it was felt that the EFT and FBT training was still important to share with a wide variety of professionals for two reasons. First, it was hoped that this training could help any health professional develop a new theoretical perspective on the etiology and maintenance of EDs, and make use of the general skills of attending to emotions and including families in the treatment of EDs. Second, given the importance of interprofessional collaboration in working with people who have EDs, the fact that a large proportion of clients with EDs will be treated

in rural areas with limited access to specialist care, and the existence of some dedicated teams of ED specialists, it was determined that it was important for all members of a health care team to be aware of the approaches being used to treat EDs so that those approaches could be supported, even by health professionals who would not use EFT and FBT directly.

Accountability exercises were built into the workshop to help participants develop a plan for implementing practice changes with the goal of increasing the likelihood that the plan will be followed. Participants of the previous EDICCB workshops were invited to attend. Two CFG members from each region were invited to attend and had their expenses covered for registration, accommodations and travel. The invitation and support for CFG members to attend this advanced workshop was based on the perceived value that they would have in encouraging health professionals in their communities to adopt and use the new knowledge and skills being taught (Hendy & Barlow, 2012). It was hoped that this impact would build on the work that the CFG members had done following the original workshop series.

Registration was then opened to health professionals who did not attend a previous EDICCB workshop to fill the remaining spaces.

### **Decision to use a workshop format.**

The EDICCB team decided to use a workshop format for the present training for a number of reasons. First, the preceding section demonstrates that workshops can be an effective method of delivering continuing education, which is by far the most important factor in the decision; it must have the potential to work. There is also a strong body of literature describing specific methods and strategies for improving the effectiveness of

continuing education in general, and workshops in particular, allowing for a very carefully designed continuing education program. Second, workshops are cost-effective. The EDICCB team had a limited budget to work with, which is an ever-present reality in health care, and they sought to maximize the impact that they could achieve with a fixed level of funding. This event could be held in one location with reasonable costs, and it could still reach a wide audience. Third, from a practical perspective, a workshop is not too logistically difficult to organize for a highly qualified group with many competing demands for their time. Fourth, the original series of six workshops were very successful and had been positively evaluated by the professionals who attended, so it was expected that there would be a high level of buy-in for a follow-up workshop.

#### **This thesis in the context of the EDICCB.**

The role of this thesis as part of this large-scale project was focused on evaluating the April 2012 advanced EFT/FTB workshop. The content of the training was developed by the presenters, Drs. Dolhanty and Lafrance-Robinson. However, elements of the format and structure of the workshop, and additional presentations and activities were designed by the EDICCB team in order to maximize the effectiveness of the workshop. I designed, conducted and analyzed the evaluation of the workshop, taking into account its various elements, goals, and desired outcomes.

#### **Overview of the Present Project**

This advanced EFT/FTB workshop took place on April 18 and 19, 2012, in St. John's, Newfoundland. The participants came from all areas of the province. It was open to professionals from any discipline who might work with EDs, and the population of attendees were from a wide variety of professional backgrounds.

Evaluation was based on a mixed-methods repeated measures pre/post/follow up design. Participants were asked to fill out a pre-training questionnaire package on the morning of the first day, and they were asked to fill out the post-training questionnaire package at the end of the second day. Follow-up surveys were sent to participants by mail and by email approximately one year after the workshop, in March 2013. Finally, qualitative follow-up interviews were conducted between March 2013 and August 2013 to gain a more nuanced understanding of the effect that the training had on participants' practice.

The research questions were guided by an understanding of the literature on models of behaviour change and evaluation of continuing education. (1) Did the workshop increase participants' knowledge (consistent with Kirkpatrick's [1996] second level, Umble et al.'s [2000] *knowledge* variable, and related to Ajzen's [1991] constructs of *attitudes* and *perceived behavioural control*)? (2) Did the workshop increase participants' confidence (i.e., *self-efficacy* or *perceived behavioural control*; Ajzen, 1991; Umble et al., 2000)? (3) Did the workshop increase participants' intention/motivation to use new skills (consistent with the variable *intention* in the Theory of Planned Behaviour; Ajzen, 1991)? (4) Did the workshop improve participants' attitudes towards interprofessional care in managing eating disorders (related to *agreement* and *attitudes* in models of behaviour change; Ajzen, 1991; Umble et al., 2000)? (5) and Did participants change their behaviour as a result of the workshop (consistent with level three in Kirkpatrick's (1996) model of evaluation)? These research questions, while guided by the theories of behaviour change described above, are fundamentally practical in nature. The purpose of this project was not to test the models in question, but rather to use them

to guide the assessment of whether the workshop was effective at targeting some of the key variables that have been strongly identified in the literature as related to behaviour change.

### **Hypotheses**

#### **Knowledge.**

- 1a. Participants' self-rated knowledge of techniques for managing EDs will increase from pre- to post-workshop, and be maintained at follow-up
- 1b. Participants' tested knowledge of therapeutic techniques for EDs will increase from pre- to post-workshop, and be maintained at follow-up.

#### **Confidence**

- 2a. Participants will report higher confidence levels from pre- to post-workshop, which will be maintained at follow-up in: addressing and managing EDs in general; using EFT and FBT techniques; and engaging in interprofessional collaboration.

#### **Intention/motivation.**

- 3a. Participants will report higher motivation for using EFT techniques for EDs from pre- to post-workshop.
- 3b. Participants will report higher motivation for using FBT techniques for EDs from pre- to post-workshop.
- 3c. Participants will report higher motivation to engage in interprofessional collaboration for EDs from pre- to post-workshop.

#### **Attitudes.**

- 4a. Participants will report improved attitudes toward interprofessional collaboration from pre-workshop to post-workshop, and these attitudes will be maintained at follow-up.

**Practice change.**

- 5a. Participants will make changes to their practice around EDs following the workshop.
- 5b. Participants will maintain their use of evidence -based skills that are not part of the workshop, namely, cognitive behavioural techniques.
- 5c. Participants will engage in more interprofessional collaboration around managing EDs.



## **Methods**

### **Ethics Approval**

The Health Research Ethics Authority at Memorial University of Newfoundland provided ethics approval for the present study, as an extension of the earlier EDICCB research project.

### **Study Design**

The quantitative portion of this study is a within-group, pre/post/follow-up repeated measures design. It is therefore quasi-experimental in design. Brief qualitative questions were included with the quantitative surveys. Additional in-depth qualitative interviews were conducted at follow-up.

### **Informed Consent**

All participants were provided with an informed consent form (see Appendix A) with the survey package at each point of data collection. Informed consent was verbally reviewed with interview participants prior to the interviews, and participants were provided an opportunity to ask any questions.

### **Procedure and Data Collection**

#### **Measures administration.**

Quantitative measures were collected at several time-points: A) pre-workshop, in the morning on the first day; B) post-workshop, at the end of the second day; C) follow-up, twelve months after the workshop. At the pre-workshop and post-workshop time points, each participant was given an envelope with a package of questionnaires. At the follow-up time point, a paper survey package was mailed to each participant and an email was sent to each participant with a link to an online version of the survey package.

Survey packages at each time point included a consent form and an anonymous code form. The consent form explained the purpose of the research, the voluntary nature of participation, and contact information for further questions (see Appendix A). The anonymous code form asked each participant to create their own tracking code using their month and year of birth, and part of their telephone number (see Appendix B). This code was used to identify each participant's questionnaires at each time point, to allow for repeated-measures analysis, while providing anonymity. It was hoped that this would allow participants to be honest and forthcoming in their responses. The questionnaire package took approximately twenty minutes to complete at each point.

**Techniques to increase response rate.**

Several techniques were used to maximize the response rate to the questionnaires, given the finite size of the population of workshop attendees. These included: setting aside time at the beginning and end of the workshop for participants to fill out the questionnaire packages; clearly explaining in the informed consent sheet that the data would be anonymous; including the personal signature of Dr. Olga Heath as a widely known and trustworthy figure on the informed consent sheet (VanGeest, Johnson, & Welch, 2007); providing attendees with the option of a mail-in or online survey at the follow-up period; including a \$5 Tim Horton's gift card in the survey package mailed to each workshop attendee (VanGeest et al, 2007); providing postage-paid return envelopes for mailed follow-up surveys (VanGeest et al, 2007); and sending two email reminders to each attendee after the follow-up surveys were made available.

**Qualitative interviews.**

I also conducted in-depth qualitative interviews with 12 volunteers from among the workshop attendees, between twelve and eighteen months after the workshop. Emails were sent to all of the workshop attendees to ask for volunteers to participate in the qualitative interview portion of the research. All of the interviews were conducted by telephone, recorded on a digital audio recorder, and transcribed for analysis. The interviews ranged in length from fifteen to thirty-five minutes. The interviews were guided with a semi-structured framework developed for this purpose, to ensure discussion of the relevant topics, but also allow for expansion beyond the provided questions. The questions covered basic information about professional work with EDs, interprofessional collaboration, practice changes resulting from the workshop, workshop feedback, and gaps in services for EDs in the professional's community (see appendices N and O for interview prompts). For those interviewees who were also part of the Community Facilitation Group (CFG), the interview framework had several additional question prompts related to the continued impact of the CFG in that community, and broader changes in services for EDs in the community.

For the sake of brevity and focus in this dissertation, the bulk of the analysis of the qualitative interviews has not been included. Selected excerpts will be included in the discussion to reinforce important quantitative findings. All participant names have been replaced with pseudonyms for anonymity.

Thematic content analysis was selected as the method to be used to analyze the qualitative data. This analytical framework involves searching through and sorting qualitative data to derive common themes or meanings that are repeated multiple times

throughout the data set (Green & Thorogood, 2009, p 198-203). The data were tagged with low-level codes, which were then categorized and organized into a small set of higher-level themes. Themes can be created at a variety of conceptual levels; very broad themes can summarize a large portion of the data at the expense of detailed description, while narrower themes may be much more numerous, apply to a smaller portion of the data, and provide a much more nuanced interpretation of the content (Braun & Clarke, 2006).

Thematic content analysis was used for a number of reasons. First, this method of analysis is effectively free of explicit theoretical underpinnings in its application (Braun & Clarke, 2006), which is consistent with the goals and viewpoint of this portion of the project. The aim of the qualitative portion is exploratory, rather than strictly confirmatory. In other words, there was no *a priori* theoretical framework that was being tested. Given the topics covered in the interview schedule, certain content areas were expected to be discussed. Necessarily, the design of the interview schedules and my interpretations of participants' comments are informed by my own experience and scientific points of view, which is a form of implicit underlying theory. However, participants' particular experiences and reactions were not predicted by a specific explicit theoretical premise. Second, there was no intent to build or construct a theoretical model out of the data. The range of questions posed to participants did not lend themselves to unification into a single model, and the types of responses expected were, at least sometimes, specific to the setting (i.e., working with eating disorders in Newfoundland and Labrador), rather than generalizable into a geographically transportable theory. Instead, it was intended that the information resulting from this process could be used to

provide a range of feedback across many specific topics that could be helpful in Newfoundland and Labrador and abroad. And third, the semi-structured nature of the interview protocols had the effect of structuring participants' responses and comments to correspond relatively closely in content to the questions that were being asked. This made the initial coding of individual pieces of data intuitive and organized, since on any given topic a number of participants likely had a few similar experiences. In this way, the data presented themselves quite naturally for this process.

### Measures

The following measures were selected to assess the outcomes of interest for this project. Where appropriate and possible, standardized measures were drawn from the literature based on demonstrating acceptable validity and reliability, and matching the hypotheses. Some of the measures were custom designed where I wished to examine a variable for which an adequate measure was not already available. All measures used are available in the appendices. They were administered at various time points, described in Table 1.

Table 1  
*Timing of Measures Administration*

Measure	Time point when measure was used		
	Pre	Post	Follow-up
Demographic questionnaire	x	x	x
Tested knowledge	x	x	x
Self-rated knowledge	x	x	x
Self-rated confidence	x	x	x
Intention/motivation readiness rulers	x	x	
Attitudes towards interprofessional collaboration	x	x	x
Treatment techniques questionnaire	x	x	x
Workshop feedback/satisfaction		x	
Practice change questionnaire			x
Qualitative interviews			x

**Demographic and background questions:** This section was based upon the demographics measure used in the earlier series of EDICCB workshops (Heath et al., 2013), with a few modifications. It covered standard variables such as age, gender, profession, as well as typical contact with eating disorders (EDs), and typical amount of interprofessional collaboration (IPC). It also included an item asking if participants attended a previous EDICCB workshop.

**Tested knowledge:** A series of 10 multiple choice questions were developed and reviewed by experts in the ED area. Two questions on EDs in general were drawn from the materials of the previous CCB workshops, two related to cognitive-behavioural techniques, and six were drawn from the materials from the present EFT/FFT workshop and measured knowledge of specific techniques taught in the workshop. The purpose of creating this measure was to objectively test participants' knowledge and learning, rather than relying solely on self-reported knowledge. Each item had five possible answers, with one correct answer.

**Self-rated knowledge:** This scale consists of 10 questions rated on a seven-point Likert scale, ranging from 1 (Not Knowledgeable) to 7 (Very Knowledgeable). Two questions assessed self-rated knowledge of IPC, two assessed knowledge of identifying and treating EDs in general, one assessed knowledge of CBT techniques, and five assessed knowledge of workshop-specific techniques (EFT/FFT) particular to this training. Questions were based on a questionnaire from the previous EDICCB workshops (Heath et al., 2013), but were modified to be more applicable for the content of the present training.

**Self-rated confidence:** This measure assesses self-rated confidence in dealing with EDs in general, workshop-specific techniques, and IPC, on a 7-point Likert scale from 1 (Not Confident) to 7 (Very Confident). The topic of each question is the same as the self-rated knowledge measure, with wording changed for clarity where appropriate. This measure is also similar to one used in the previous EDICCB workshops (Heath et al., 2013).

**Intention/Motivation Readiness Rulers:** The Readiness Ruler measures were based on a tool that the workshop presenters had created and used previously. I modified the content of the measure to align with the present workshop. The measure includes several Likert-scale-type rulers designed to assess participants' intention and motivation to implement techniques learned in the workshop and engage in more IPC. This type of tool has been used widely in motivational interviewing (Rollnick & Miller, 1995), and has been found to be a valid type of instrument for assessing motivation to engage in or change various behaviours (e.g., Heather, Smailes, & Cassidy, 2008; Hesse, 2006; LaBrie, Quinlan, Schiffman, & Earleywine, 2005; Maisto et al., 2011). Three areas of practice were assessed using these readiness rulers: 1) Emotion Focused Therapy; 2) Family Based Therapy; and 3) Interprofessional Collaboration. Each of these areas was measured with four questions, corresponding to *motivation*, *readiness*, *willingness*, and *confidence* regarding making behavioural changes.

**Attitudes Towards Interprofessional Collaboration:** This scale was adapted from the one created by Heinemann, Schmitt, Farrell, and Brallier (1999) and used for the first series of EDICCB workshops. Language about health care teams was replaced with language about interprofessional collaboration for EDs. It was used again in its modified

form for this project. The original measure was validated in a national sample of health care professionals who work on teams. It demonstrated good internal reliability (Cronbach's  $\alpha = .83$ ) and good construct validity through significant correlations ( $r$ s ranging from .21 to .39) in the expected directions with a range of measures of health care team effectiveness. The scale consists of 14 statements about the benefits and challenges of IPC, to which participants may answer "strongly disagree", "disagree", "neutral", "agree", or "strongly agree".

**Treatment Techniques Questionnaire:** I developed this scale based on Waller, Stringer, and Meyer's (2012) survey of cognitive-behavioural techniques for EDs, and the present workshop content. It is designed to measure the proportion of patients with whom professionals use techniques taught in the workshop (EFT and FBT techniques), as well as other evidence-based techniques from Cognitive Behavioural Therapy (CBT). It includes two contra-indicated but plausible-sounding techniques to control for social desirability bias in reporting changes at follow-up. Participants rated how often they used each of the 12 therapeutic techniques when working with patients who had EDs, with ten response options from "0% - 10%" up to "90% - 100%". The original Waller et al. (2012) survey was designed to assess a range of independent behaviours, and was not intended to measure any underlying unitary construct. As such, psychometric data on the overall measure was not reported. The Treatment Techniques Questionnaire is similar in style.

**Workshop feedback/satisfaction:** A workshop feedback form was modified from the one used in the first series of CCB workshops (Heath et al., 2013) to reflect the content of the present workshop. It was used only at the post-workshop time point.



Eleven questions assessed participants' satisfaction with the workshop quantitatively, with 5 response options of Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. Six of those questions reflected specific aspects of the workshop content, and five reflected participants' judgments of the workshop's overall structure and presentation. Two additional questions elicited open-ended responses about what was liked or disliked in the workshop, and any practice changes participants were intending to make as a result of the workshop. The final question asked if participants noted any industry bias in the workshop, for the sake of continuing education credit accreditation.

**Practice Change Questionnaire:** This questionnaire was created for this research and asks participants about how their practice has changed since the workshop. It was used only at the follow-up time point. Some of the questions were taken from the follow-up questionnaire of the first EDICCB workshops (Heath et al., 2013), and several other questions were added. The seven questions on this tool consisted of five yes/no questions, one quantitative question, and one solely qualitative question. Each yes/no question and the quantitative question had a qualitative component asking the participant to explain the response that was given. The content of the questions covered whether practice had changed in general, whether workshop techniques had been used, whether previously used techniques had been discontinued, whether there were changes in interprofessional collaboration, whether participants used their action plans, and what changes they planned to make next.

**Qualitative interviews:** Questions for the qualitative interviews were created after the workshop took place, in order to include insights gleaned from participating in the workshop, as well as feedback from the pre- and post-workshop data. The interview

framework included several questions in each of eight categories. Briefly, the interviews were used to examine questions about whether the Community Facilitation Groups were continuing to have an impact, what kinds of changes had happened in the community and what was still seen as an area for improvement, how often participants worked collaboratively with other professionals around EDs, whether participants were able to implement their action plans and what the barriers and facilitators to changing practice had been, and whether participants had any suggestions about the present workshop and what kinds of other services or training were still needed (also see Appendices N and O).

### **Behaviour Change Workshop Strategies**

Several specific strategies were used to increase the impact of this training. It was important to target the CFG members in particular because their role as “champions” potentially makes them a powerful catalyst for change (Hendy & Barlow, 2012). The members of the CFG were invited to a special dinner between the workshop days to discuss their successes and challenges to date with implementing practice change, and to create a plan for how they would continue to encourage practice change in their communities with particular reference to interprofessional collaboration and using best practice with EDs. It was believed that their public commitment and collaboration with the organizers and each other would greatly increase the likelihood that they would implement their plans, and continue to fulfill the role of champion in their respective communities.

In addition, there was a lunch session during the workshop open to all participants, at which they were asked to create an “action plan” describing what new practices they planned to implement, how they would do it, and over what time frame.

The action plan exercise was designed to increase personal accountability, intention and motivation to change practice. This goal was further targeted by having a representative from each table share their group's plans with the rest of the attendees.

Both the CFG dinner and the lunch-time action plan session targeted multiple aspects of models of behaviour change. The public nature of these declarations of plans (i.e., among a group of one's health care professional peers) increases the level of Ajzen's (1991) construct of *subjective norm*, because those peers then expect the speaker to follow through on his or her plans, and each person sees all of the other attendees making their own commitments to action; hence, completing one's action plan will be seen as normal and expected. The discussions that participants had with each other and the creation of specific plans of action were intended to increase Ajzen's (1991) construct *perceived behavioural control*, or the analogous *self-efficacy* in the Umble et al. (2000) model. It was thought that having considered specifically what sorts of actions would be possible to implement, participants would feel an increased sense that they were able to make such changes.

Attendees were given an assigned seat for the workshop. The seating plan was designed such that professionals who worked geographically close to one another were seated together. This was done to allow participants to get to know professionals in their region with whom they could connect. Basic familiarity can make interprofessional collaboration much easier by providing introductions to professionals who may not have been known, and reducing social barriers to making first contact. This effort was intended to target the construct *subjective norm* by exposing attendees to their geographically-close peers with whom they might have professional contact. It was also

expected to affect *perceived behavioural control/self-efficacy* by facilitating lines of referral and collaboration in a practical way.

The EDICCB team hired a professional actor to perform a one-woman play during the workshop. The play was called *The Thin Line* (Plourde, 2017), and it featured a young woman switching between her own voice, and her “eating disorder voice” which would argue with her, berate her and tell her what to do. The intention of showing this play during the training was to evoke an emotional reaction among attendees. It was hoped that the audience would gain a deeper understanding of what it was like to live with an ED. By highlighting the fact that people with EDs need help, Ajzen’s (1991) variable *attitude* and Umble et al.’s (2000) variable *agreement* were targeted by the workshop organizers.

Interactive learning has been demonstrated to be an effective element of continuing education (Davis et al., 1999), and may operate through *perceived behavioural control/self-efficacy* as participants are able to practice concrete skills. The presenters of the training (Drs. Dolhanty and Lafrance-Robinson) decided to integrate interactive elements into the workshop. Specifically, one of the important features of this workshop was the inclusion of several instances of experiential role-playing of emotion-focused therapy skills in dyads.

Finally, reminders are an effective method of changing physician behaviour (Bloom, 2005), and may operate through *subjective norm* as well as by renewing *intention* to change. To make use of this strategy, approximately three months after the workshop, all attendees were emailed a very brief survey regarding their progress in

implementing their action plans. This email was designed to be a reminder for participants to continue trying to make changes to their practice in working with EDs.

In summary, all three first-level variables in Ajzen's (1991) model were targeted: *attitude*, *subjective norm*, and *perceived behavioural control*. *Intention* to change behaviour was directly targeted by the reminder email, and was expected to be affected by the other variables, ultimately leading to behaviour change. Similarly, in the Umble et al. (2000) model, *agreement* and *self-efficacy* were targeted, in addition to *knowledge* through the didactic portion of the workshop.

### **Missing Data**

Missing data points were not estimated or imputed. Data missing from items analyzed descriptively were simply not included in the counts. In the few cases where a single item was missing from a multi-item scale for a participant, the mean of the remaining items on the measure was used in the analysis in place of the mean of all items on the scale (i.e., "case-by-case item deletion"; Schafer & Graham, 2002). If an entire measure was left blank, that participant was not included in within-subjects analyses using that measure (i.e., listwise deletion; Schafer & Graham, 2002). Most of the missing data occurred among follow-up survey participants who did not complete the full set of measures, thus leaving one or more measures blank at the end of the survey package. Other cases of single items or entire scales missing were less common.

Specifically, on the Practice Change Questionnaire administered at follow-up, one item was missing in four cases, three items were missing in one case, and four items were missing in two cases.

On the self-rated knowledge questionnaire, one item was missing in two cases and two items were missing in one case at pre-workshop, and one measure was missing at follow-up.

On the self-rated confidence questionnaire, one item was missing in three cases and two measures were missing at pre-workshop. One measure was missing at post-workshop. At follow-up, one item was missing in 1 case, and 6 measures were missing.

On the tested knowledge measure, six measures were missing at follow-up.

On the EFT Readiness Ruler, two measures were missing at post-workshop.

On the FBT Readiness Ruler, two measures were missing at pre-workshop. At post-workshop, one item was missing in one case, and three measures were missing.

On the IPC Readiness Ruler, one item was missing in one case at pre-workshop, and one item was missing in one case at post-workshop.

On the Attitudes Towards Interprofessional Collaboration measure, one item was missing in two cases at post-workshop, and seven measures were missing at follow-up.

On the Treatment Techniques questionnaire, nine measures were missing at pre-workshop. At follow-up, one item was missing in two cases, and eight measures were missing. Some participants left the measure blank at both time-points, such that a total of 14 participants who responded to both the pre-workshop and follow-up surveys were not able to be included in the analysis.

On the Workshop Feedback/Satisfaction measure administered at post-workshop, one item was missing in seven cases, two items were missing in three cases, and two measures were missing.

**Data Screening**

The sphericity of the data in each repeated measures ANOVA was tested using Mauchly's test. For each set of repeated measures data (with three or two time points), the normality of the data at each time point was determined through examination of histograms and Q-Q plots, and a Shapiro-Wilk test. Unless otherwise noted, all data reported from these analyses met the assumptions of sphericity and approximate normal distribution.

**Data Analysis Procedures**

The quantitative analysis in this study was conducted using SPSS Version 21 (Armonk, NY: IBM Corp.). The quantitative measures collected as part of this study that met the assumptions for parametric tests were analyzed using repeated measures ANOVA, in those cases when a variable was measured at all three time points (pre-workshop, post-workshop, and follow-up). Where a repeated measures ANOVA returned a significant result, post-hoc pairwise comparisons were examined to determine the specific time points that differed from each other, and in which direction change had occurred. Bonferroni corrections were not used on the post-hoc tests, given the relatively small samples in some of the analyses and the conservative nature of the correction. Instead, significant results were interpreted with caution (M. Grant, personal communication, December 17, 2016).

Some variables were intended to be analyzed using dependent-samples t-tests because they were only measured at two time points (for instance, motivation to change behaviours was measured pre- and post-workshop, but not at follow-up, and the therapeutic techniques that attendees used were compared only at pre-workshop and

follow-up, since there would be no expected change from pre to post). However, since these variables did not meet the assumption of normality, they were analyzed using a non-parametric alternative: Wilcoxon Signed-Rank Tests (Field, 2005, p. 534-542). The Z-statistic will be used in reporting these tests as it is commonly understood. An absolute Z-score of greater than 1.96 indicates a significant difference between groups at  $p < .05$ . For these analyses, the exact 2-tailed significance level will be reported.

For the repeated-measures ANOVAs, partial eta squared is reported as a measure of effect size. For pairwise comparisons and dependent samples t-tests, Cohen's  $d_{AV}$  was selected as the most appropriate effect size measure (Lakens, 2013). The term "Cohen's  $d$ " actually refers to several effect size statistics that are calculated slightly differently, so it is useful to specify the statistic used here as  $d_{AV}$ . This particular statistic uses the average of the standard deviations of the two groups as the denominator of the formula, which is mathematically equivalent to a pooled standard deviation when the group sizes are equal, which is the case in all repeated-measures analyses in this study. Cohen's  $d_{AV}$  may be interpreted in the same way as other Cohen's  $d$  statistics. While qualitative descriptors for effect sizes should not be applied blindly (Rosenthal, 1996), they do provide a helpful heuristic for interpreting effect size. Cohen's (1988) guidelines provide an appropriate framework for the present field of research (see Table 2).

Table 2

*Qualitative Descriptors for Effect Size Measurements*

Effect Size Statistic	Small Effect	Medium Effect	Large Effect
Partial eta squared	0.01	0.06	0.14
Cohen's $d_{AV}$	0.2	0.5	0.8

*Note.* Qualitative descriptors are adapted from Cohen (1988).



I conducted the coding and analysis of the qualitative interview data. I have previous experience conducting detailed qualitative analysis of transcribed conversations, including the use of specialized qualitative research software. In the present project, no specialized software was used. Rather, the analysis was completed through several stages of tagging and reorganizing pieces of the interview transcripts in a standard word processing program.

### **Participant Recruitment and Retention**

Of the 95 workshop attendees who had originally registered to attend the workshop, 80 actually attended. Two were excluded from participating in this research due to being part of the research project, leaving a total population of 78 potential participants. All 78 participants completed the pre-workshop survey package, and 74 of those participants also completed the post-workshop survey. A few participants could only attend the first day, and so were not available for the post-workshop survey, but the number of participants in this situation is not known. As such, a conservative minimum estimated participation rate, assuming all participants were available, is 95% (74/78) for completing both pre- and post-workshop measures.

Participation in the follow-up survey was lower. We received 17 completed mailed survey packages, and nine completed electronic survey responses. One pair of paper/electronic surveys was from the same participant, so the later-received electronic response was dropped, leaving a total of 25 responses. In addition, there were seven partially completed electronic responses. As a result, some of the analyses that include follow-up data vary in the number of cases available from 15 to 32. Relative to the original 74 participants who provided complete pre- and post-workshop data, 34%

provided reasonably complete follow-up data (no more than one measure missing), and an additional 9% provided incomplete data (more than one measure missing), for a total follow-up maintenance of the sample of 43% (32/74).

One participant provided post-workshop data that could not be matched to other time-points due to different anonymous codes being used; and three participants provided follow-up data with an anonymous code that did not match their earlier submissions. Attempts to match responses based on demographic data were also unsuccessful with these cases, so they were not able to be linked to earlier data and were considered separate. Thus, combining the 78 pre-workshop participants, one unmatched post-workshop participant and three unmatched follow-up participants resulted in a total sample comprised of 82 cases (see Figure 4). There may be a small degree of imprecision in demographic data due to these four participants being counted as separate cases, but by definition none were included in within-subjects analyses across time points because they had no linked data from other time points.

An analysis of follow-up completers vs. non-completers was conducted to determine whether there was any clear bias in the follow-up sample. Independent groups t-tests were used for scaled data, and Fisher's Exact Test was used for binary data. The two groups did not significantly differ on age, gender, number of patients with EDs seen, number of interprofessional contacts, years of experience in their field, pre-workshop subjective or objective knowledge, pre-workshop confidence, pre-workshop attitudes towards interprofessional collaboration, pre-workshop use of EFT and FBT techniques, or pre- and post-workshop motivation to engage in EFT, FBT, or interprofessional collaboration (all  $ps > .05$ ). There was a significant difference between the groups on

having attended one of the previous EDICCB workshops. Specifically, those who attended a previous workshop were more likely to complete the follow-up measures (51%, 19/37) than those who did not attend a previous workshop (29%, 13/45; Fisher's Exact Test, 2-sided,  $p = .044$ ).

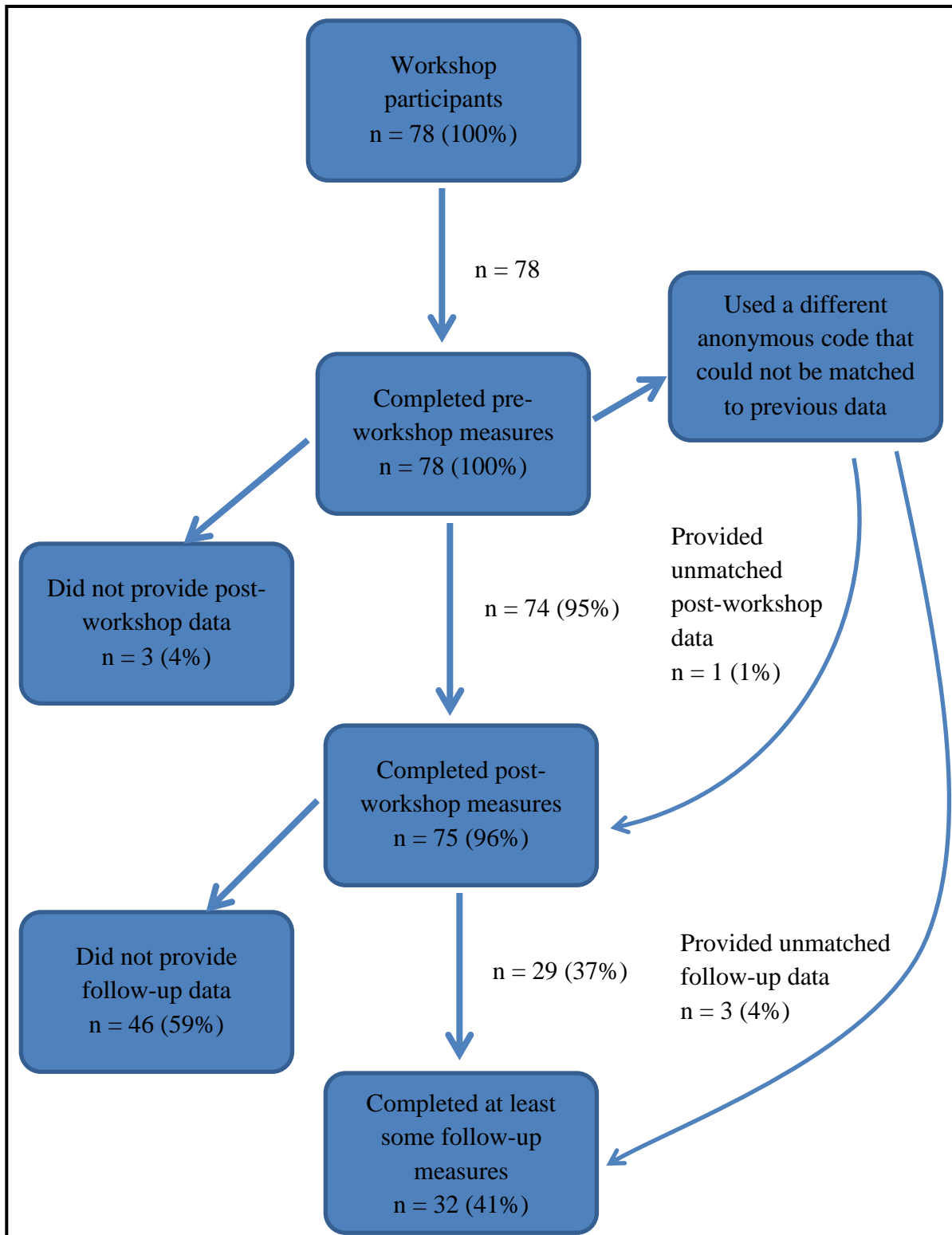


Figure 4. Research Participation and Dropout

## Results

Throughout the results section, pre-workshop will be referred to as time 1, post-workshop will be time 2, and follow-up will be time 3.

### Demographics

Of the total sample of 82, 77 were female and five were male. The ages of participants ranged from 24 - 59 ( $M = 41.88$ ,  $SD = 9.60$ ). The range of experience working with eating disorders (EDs) was large, spanning from 0 to 40 years ( $M = 11.93$ ,  $SD = 10.04$ ). Similarly, there was a wide range in the number of patients with EDs that participants saw per week, from 0 to 20 ( $M = 3.35$ ,  $SD = 5.32$ ). The number of interprofessional contacts per month related to EDs ranged from 0 to 100 ( $M = 9.06$ ,  $SD = 17.73$ ). This data is presented in Table 3. In total, 34/78 or 44% of the participants who completed the pre-workshop survey had attended one of the previous EDICCB workshops.

Table 3  
*Demographics*

	<i>N</i>	<i>M</i>	<i>SD</i>
Age	81	41.88	9.60
Years of experience with EDs	82	11.93	10.04
ED patients per week	80	3.35	.59
ED Interprofessional Contacts per month	79	9.06	1.99

Participants endorsed being members of a wide range of professions, with the most common being nurses (17), clinical psychologists (16), and social workers (15). The “Other” category included professions such as child and youth counsellors, consultants, counselling psychologists, and psychiatry residents. Professions with only

one or two participants were combined into the “combined other professions” category to maximize participants’ anonymity, since some professions have very few members in Newfoundland and Labrador. See Table 4 for full profession data.

Table 4  
*Professions of Participants*

Profession	<i>n</i>	%
Nurse	17	20.7
Clinical Psychologist	16	19.5
Social Worker	15	18.3
Other	10	12.2
Student	8	9.8
Dietician	5	6.1
Family Physician	3	3.7
Guidance Counsellor	3	3.7
Combined other professions	5	6.1
Total	82	100

Participants reported working in a wide variety of settings, with the most common being community clinics (25), in a hospital setting with outpatients (22), and in a hospital setting with inpatients (19). Responses on this question were non-exclusive—participants were able to select more than one setting. The “Other” category included settings such as patients’ homes, residential facilities, workplace, and non-profit counselling. See Table 5 for full data on place of work.

Table 5

*Place of Work*

Setting	<i>n</i>	%
Community Clinic	25	30.49
Hospital – Outpatient	22	26.83
Hospital – Inpatient	19	23.17
Other	13	15.85
Private Practice	10	12.20
School	9	10.98
Total	98	

*Note.* Total N = 82.

**Self-Rated Knowledge**

A repeated measures ANOVA ( $n = 28$ ) was conducted using the data from the self-rated knowledge questionnaire, using the calculated average of the ten items on a 1 to 7 scale for each participant. There was a significant effect of time on this measure of knowledge,  $F(2, 54) = 37.364$ ,  $p < .001$ , partial eta squared = .581 (a very large effect size). Pairwise comparisons revealed that time 1 ( $M = 3.44$ ,  $SD = 1.05$ ) was different from time 2 ( $M = 4.66$ ,  $SD = .78$ ,  $p < .001$ , Cohen's  $d_{AV} = 1.332$ ) and time 3 ( $M = 4.52$ ,  $SD = .84$ ,  $p < .001$ , Cohen's  $d_{AV} = 1.138$ ), both very large effect sizes. Times 2 and 3 did not significantly differ ( $p = .143$ ). This finding indicates that participants rated their knowledge of EDs and the treatment thereof higher immediately after the workshop than they did before the workshop, and these gains were maintained at the follow-up period. See Figure 5.

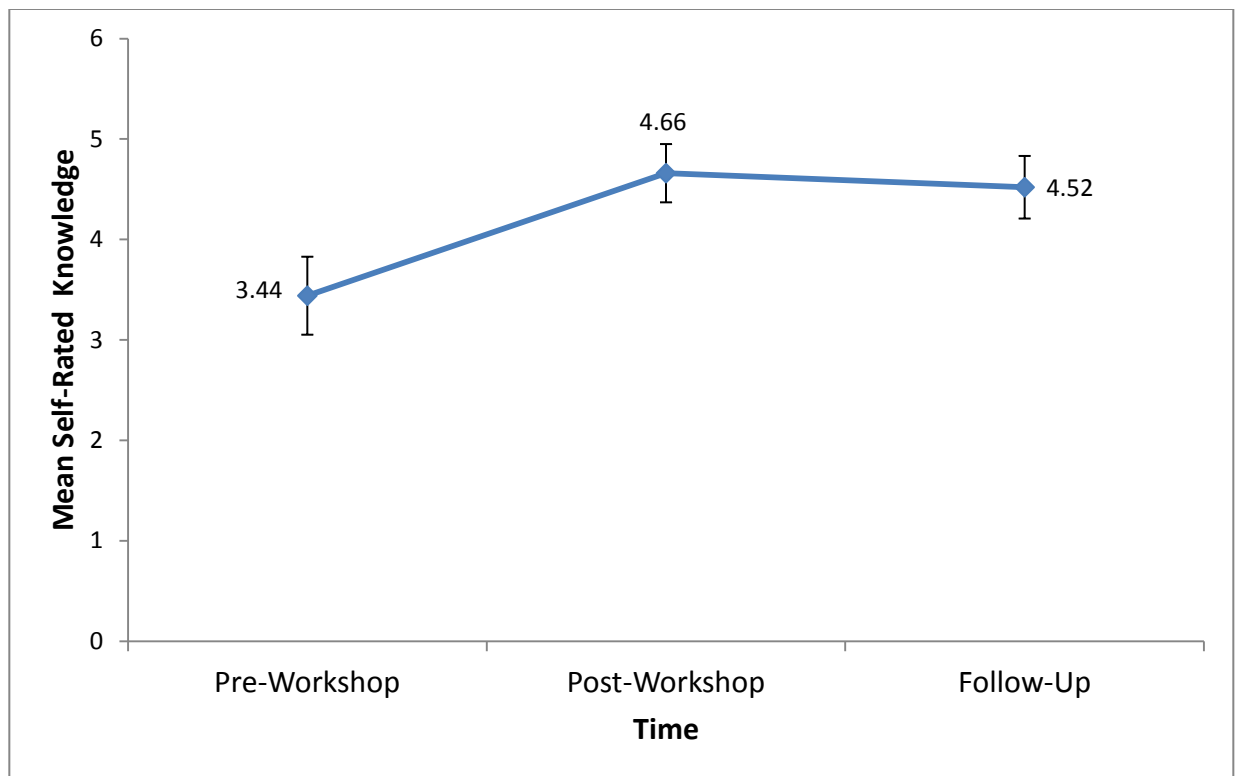


Figure 5. Mean self-rated knowledge scores.

Note. Error bars represent 95% CIs.

### Confidence

A repeated measures ANOVA ( $n = 21$ ) was conducted using the data from the confidence questionnaire, again using each participant's average score across the ten items with a scale of 1 to 7. The analysis revealed a significant effect of time,  $F(2, 40) = 29.464$ ,  $p < .001$ , partial eta squared = .596 (a very large effect size). Pairwise comparisons found that time 1 ( $M = 3.25$ ,  $SD = 1.13$ ) was different from time 2 ( $M = 4.37$ ,  $SD = .80$ ,  $p < .001$ , Cohen's  $d_{AV} = 1.168$ ) and time 3 ( $M = 4.24$ ,  $SD = .78$ ,  $p < .001$ , Cohen's  $d_{AV} = 1.037$ ), both large effect sizes. Times 2 and 3 did not significantly differ ( $p = .290$ ). This finding indicates that participants rated their confidence in identifying



and treating EDs higher immediately after the workshop than they did before the workshop, and these gains were maintained at follow-up. See Figure 6.

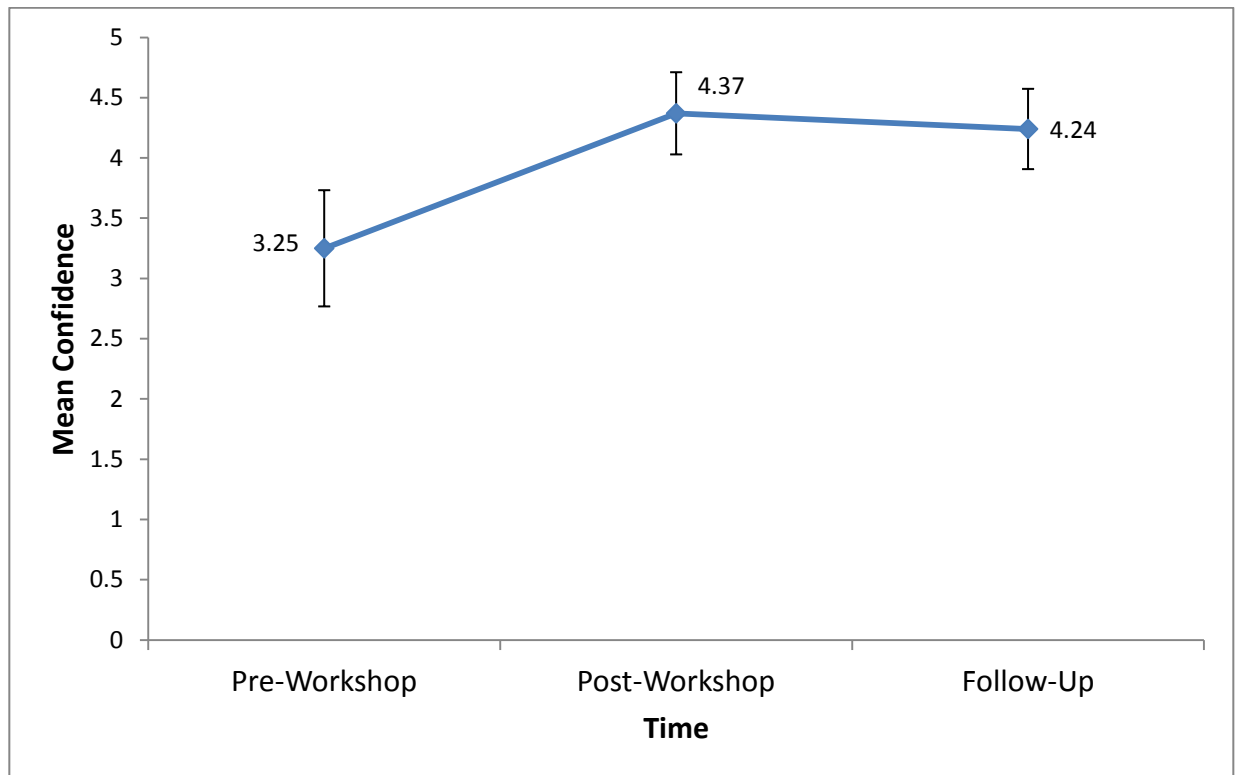


Figure 6. Mean confidence scores.

Note. Error bars represent 95% CIs

### Tested knowledge

Initial normality testing on the tested knowledge raw data suggested that the data were not normally distributed. For the total tested knowledge measure at times 1, 2 and 3, the Shapiro-Wilk test returned values of  $p = .025$ ,  $p = .064$ , and  $p = .136$  respectively, with the first time point significantly departing from normal. For the EFT/FT items only, the Shapiro-Wilk test returned values of  $p = .027$ ,  $p = .007$ , and  $p = .011$ , with all three time points significantly departing from normal. Since using the distributions of

raw data is a simpler but more stringent test that is sufficient but not necessary for estimating that the sample is drawn from an underlying normal population, a more specific method was used: the residuals were calculated by subtracting each data point from the fitted model (i.e., the sample mean at that time point), then the residuals were combined into one data set, and tested against a normal distribution (Verran & Ferketich, 1987). For the combined residuals of the total tested knowledge measure, the Shapiro-Wilk test returned a value of  $p = .106$  (i.e., not significantly different from normal). For the combined residuals of the EFT/FT items only, the Shapiro-Wilk test returned a value of  $p = .153$ , also not significantly different from normal. These findings, combined with visual inspection of histograms of the raw data and the residuals which appeared approximately normal, indicate that the data are sufficiently normal for repeated measures ANOVA procedures to be accurate.

Tested knowledge was analyzed in two ways: using the total of all the items in the measure, and using a subset of items related to the workshop material directly (i.e., EFT & FT). Participants' number of correct answers were summed across the ten items, and this score was used to compute a repeated measures ANOVA ( $n = 23$ ) which did not yield a significant result,  $F(2, 44) = 2.095$ ,  $p = .135$ , partial eta squared = .087 (a medium-sized effect). The second analysis used the sum of the correct responses for the six EFT/FT questions, and this repeated measures ANOVA ( $n = 23$ ) did yield a significant result,  $F(2, 44) = 3.214$ ,  $p = .050$ , partial eta squared = .127 (a medium-to-large effect), although pairwise comparisons did not identify specific differences between time points. A visual inspection determined that there was a trend for the means of these

scores to increase from time 1 ( $M = 2.43$ ,  $SD = 1.00$ ) to time 2 ( $M = 2.65$ ,  $SD = 1.07$ ), and then further to time 3 ( $M = 3.00$ ,  $SD = .95$ ). See Figure 7.

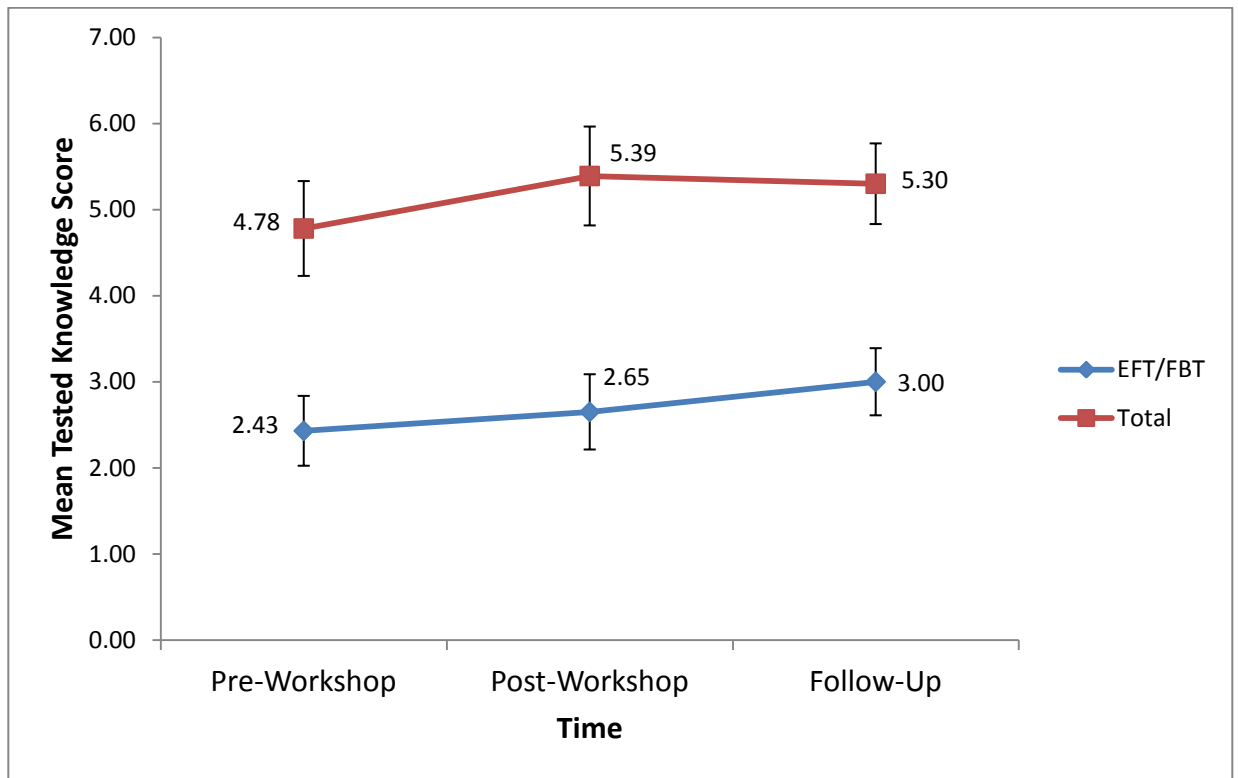


Figure 7. Mean tested knowledge scores for all items, and for EFT/GBT items only.

Note. Error bars represent 95% CIs

### Intention/Motivation

Each of the readiness ruler measures was analyzed separately, to allow for the possibility of differential effects on participants' motivation to implement various aspects of the training. A total score for each measure was calculated by summing the four responses on that measure. This measure was administered only at the pre-workshop and post-workshop time points, since the goal was to measure the impact of the training on

participants' intention or motivation to engage in new treatment behaviours, consistent with models of behaviour change.

Shapiro-Wilk tests indicated that the readiness ruler data on motivation to use EFT was non-normal ( $p = .013$  at time 1, and  $p = .067$  at time 2). Motivation to engage in more IPC was also non-normal ( $p = .002$  at time 1, and  $p < .001$  at time 2). However, the data for motivation to use FBT was normal, according to Shapiro-Wilk tests ( $p = .112$  at time 1, and  $p = .098$  at time 2). Testing the normality of the combined residuals for EFT and IPC confirmed that they were also non-normal, and that therefore the assumptions necessary for parametric statistical tests were not met. For consistency and ease of comparison, all three readiness rulers were analyzed using non-parametric Wilcoxon Signed-Rank Tests.

#### **Motivation to use Family Based Therapy.**

The results of a Wilcoxon Signed-Rank test with  $n = 69$  pairs of data points indicated that participants' motivation to use Family based Therapy did not significantly change from time 1 ( $M = 6.70$ ,  $SD = 2.03$ ) to time 2 ( $M = 6.85$ ,  $SD = 1.79$ ),  $Z = -.920$ ,  $p = .361$ , Cohen's  $d_{AV} = 0.079$ . See Figure 8.

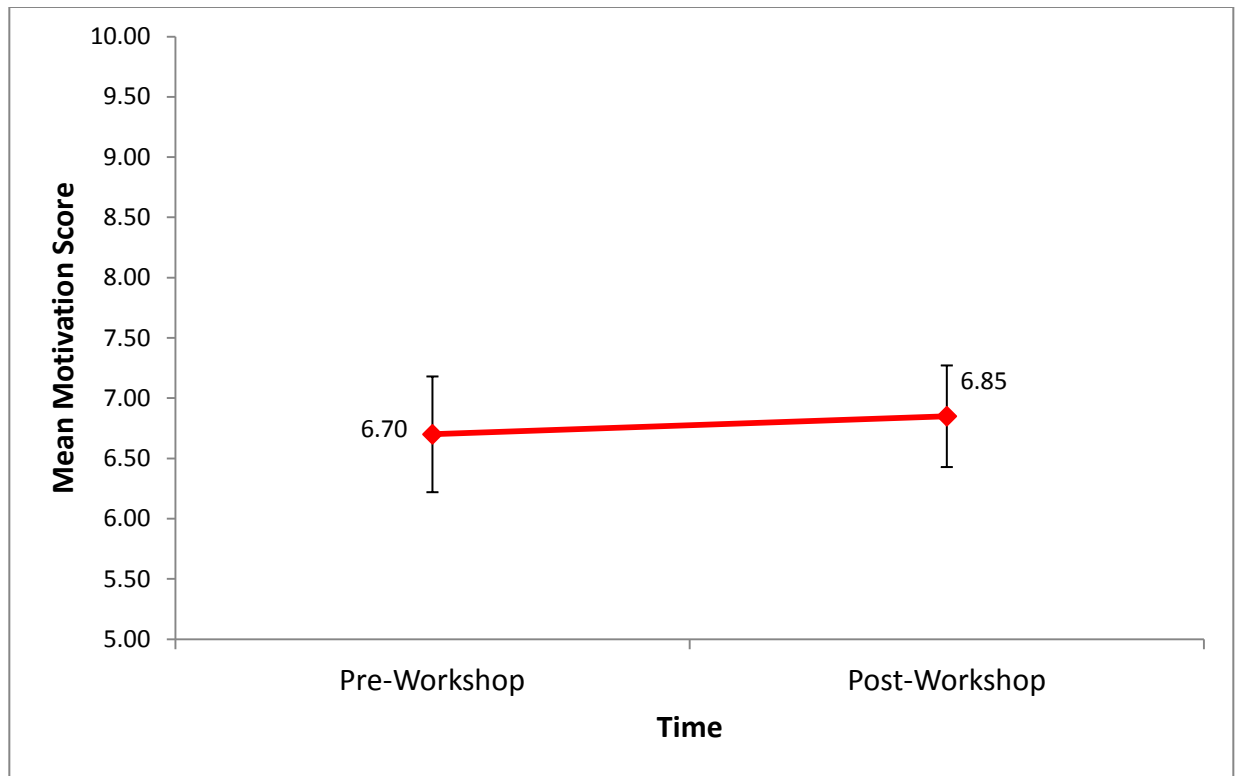


Figure 8. Motivation to use FBT.

Note. Error bars represent 95% CIs.

### **Motivation to use Emotion Focused Therapy.**

A comparison of motivation to use Emotion Focused Therapy ( $n = 72$  pairs) also yielded non-significant results:  $Z = -.010$ ,  $p = .993$ . There was very little change from time 1 ( $M = 7.14$ ,  $SD = 1.85$ ) to time 2 ( $M = 7.13$ ,  $SD = 1.72$ ), Cohen's  $d_{AV} = .006$ . See Figure 9.

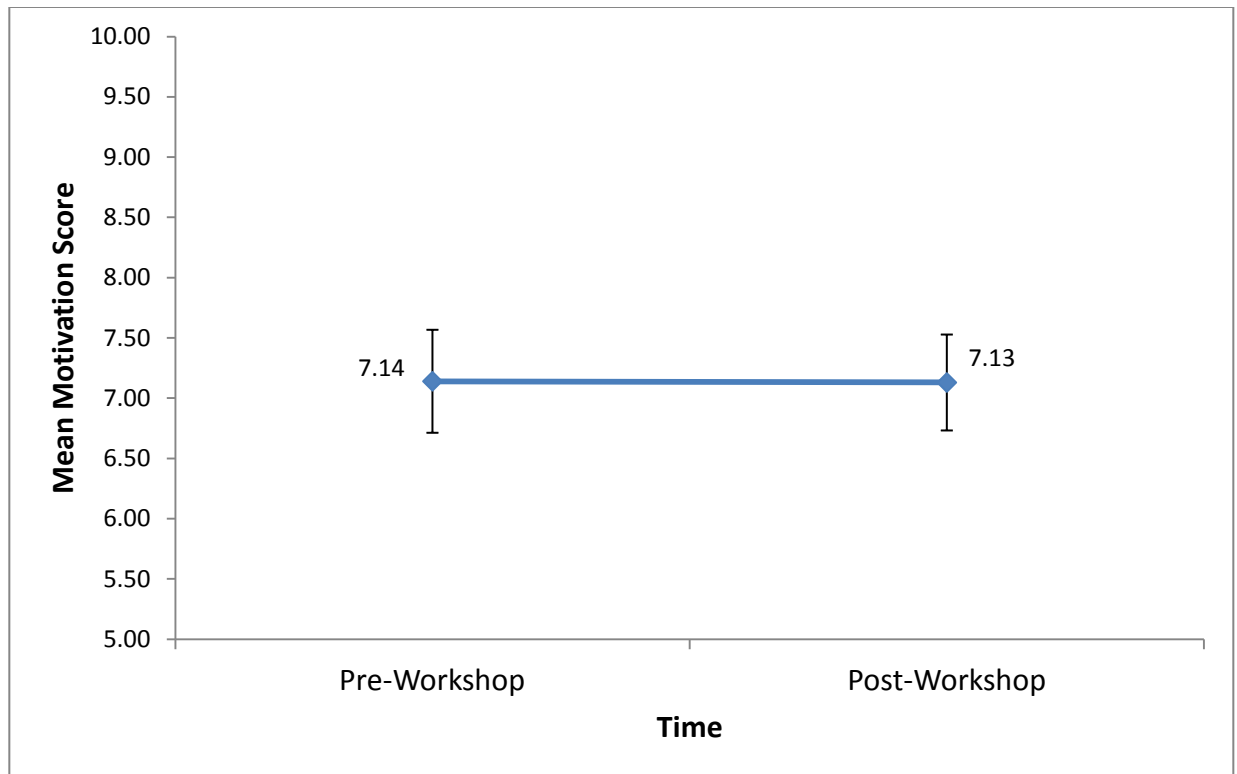


Figure 9. Motivation to use EFT.

Note. Error bars represent 95% CIs.

### **Motivation to engage in more interprofessional collaboration.**

Analysis of motivation to make changes to use more interprofessional collaboration ( $n = 74$  pairs) resulted in a non-significant trend:  $Z = -1.691$ ,  $p = .091$ . It appears that motivation in this area rose slightly from time 1 ( $M = 7.89$ ,  $SD = 1.63$ ) to time 2 ( $M = 8.15$ ,  $SD = 1.52$ ), although it is difficult to say that a change of this small magnitude (Cohen's  $d_{AV} = 0.165$ ) represents a real effect in a sample of this size. See Figure 10.

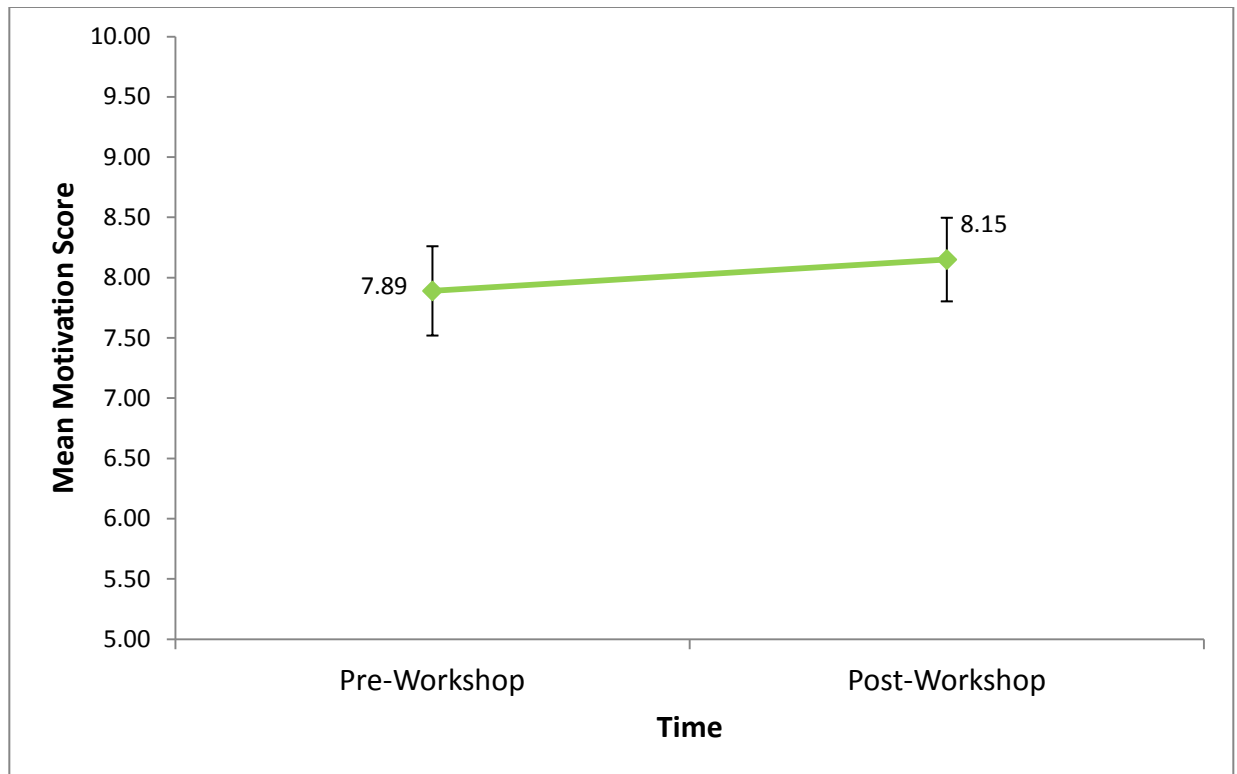


Figure 10. Motivation to engage in more interprofessional collaboration.

Note. Error bars represent 95% CIs.

### Attitudes Towards Interprofessional Collaboration

The attitudes data across times 1, 2, and 3 were determined not to meet the assumption of sphericity using Mauchly's test ( $\chi^2 (2) = 9.49, p = .009$ ). The degrees of freedom for the repeated measures ANOVA were adjusted with a Greenhouse-Geisser correction (epsilon = .726; Field, 2005, p. 430).

A repeated measures ANOVA ( $n = 22$ ) was used to examine the question of whether there was any change in attitudes towards collaborating with other professionals about working with patients with EDs. The items on this measure were coded from 1 ("strongly disagree") to 5 ("strongly agree"), with 3 representing "neutral". The majority of statements were positive regarding IPC, with three negatively-worded items being

reverse-coded. There were no significant differences ( $F(1.452, 30.487) = 1.028, p = .348$ ) between time 1 ( $M = 4.24, SD = .49$ ), time 2 ( $M = 4.18, SD = .51$ ) and time 3 ( $M = 4.13, SD = .43$ ). The means at each time point were above 4, signifying that on average participants agreed with statements supporting IPC. See Figure 11.

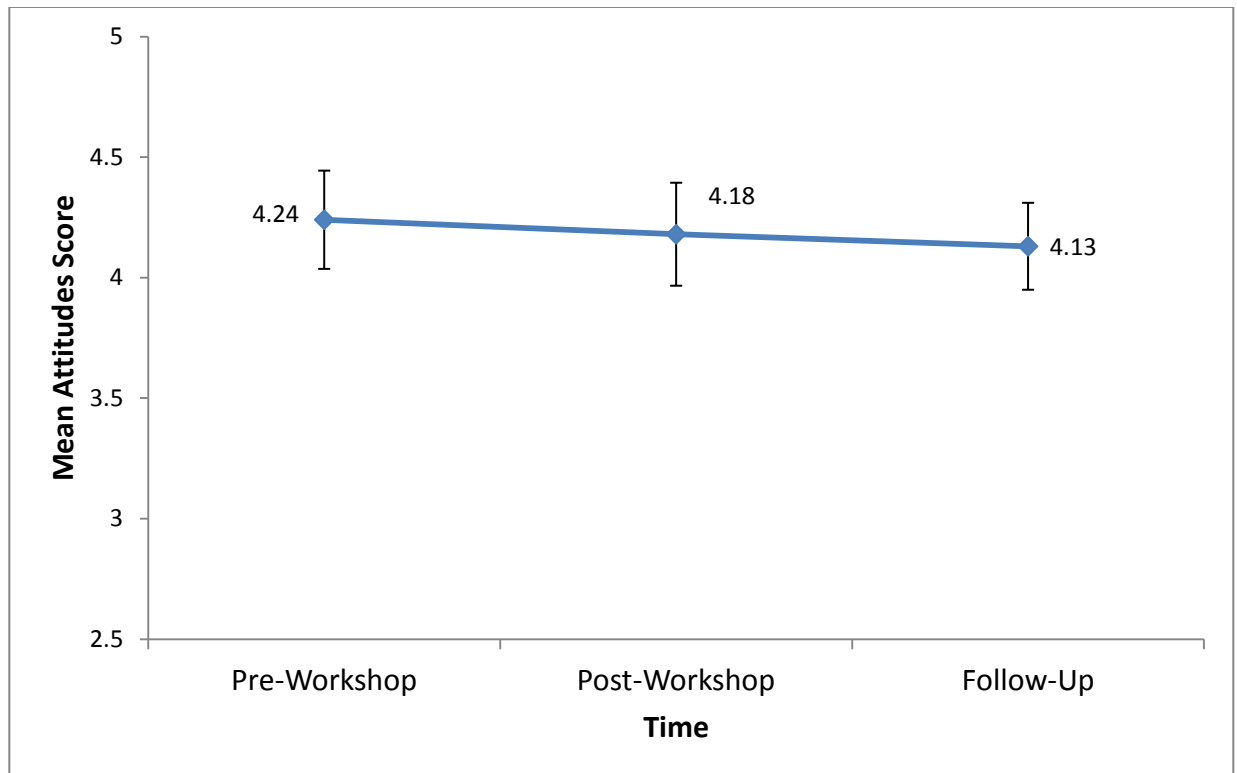


Figure 11. Attitudes towards interprofessional collaboration.

Note. Error bars represent 95% CIs.

### Treatment Techniques

Since the techniques that participants' actually use with patients would not change between the pre-workshop and post-workshop measurement points, the time points selected for comparison were pre-workshop and follow-up. The analysis was divided into three parts: 1) EFT and FBT techniques taught in the workshop; 2) CBT techniques



with good evidence for efficacy; and 3) contra-indicated but plausible-sounding techniques, used as a control. Each item was a technique (such as “Self-critic 2-chair”) and participants were asked to rate the proportion of their patients with EDs with whom they used each technique. Each response option was assigned a code to make quantitative analysis possible, such that “0-10%” was coded as 0, “10-20%” was coded as 1, and so on until “90-100%” was coded as 9. Therefore, each code can be approximated with a percentage for ease of understanding the results. For example, the code 1 represents approximately 15%, and the code 5 represents approximately 55%.

Shapiro-Wilk tests indicated that some of the treatment techniques data was not normally distributed. Specifically, the EFT and FBT techniques were not normal ( $p < .001$  at time 1, and  $p = .012$  at time 3), and the control items were not normal ( $p < .001$  at time 1, and  $p < .001$  at time 3). The CBT techniques were just within the bounds of normality at time 1 ( $p = .056$ ) and at time 3 ( $p = .071$ ). Examination of the combined residuals for the EFT/FBT and control data confirmed that the data were indeed non-normal, and that the assumptions necessary for parametric analyses were not fulfilled. In particular, the EFT/FBT data had a modal response of 0 and positive skew, the CBT data resulted in a fairly flat distribution, and the contra-indicated techniques data had a mode of 0 and only a few higher responses. For consistency and comparability across analyses, all three categories of treatment techniques were analyzed using Wilcoxon Signed-Rank Tests.

### **EFT and FBT.**

The Wilcoxon Signed-Rank Test for EFT and FBT techniques taught in the workshop (total  $n = 15$ ) was significant:  $Z = -2.670$ ,  $p = .004$ . There was a significant

increase in the proportion of patients with whom participants used these techniques from time 1 ( $M = .48$ ,  $SD = .74$ ) to time 3 ( $M = 1.65$ ,  $SD = 1.49$ , Cohen's  $d_{AV} = 1.046$ ).

Translated back into percentages of patients with EDs who receive these techniques, this represents a change from approximately 9.8% to 21.5%. See Figure 12.

### **CBT.**

The Wilcoxon Signed-Rank Test for CBT techniques (total  $n = 15$ ), which were not taught in the workshop, was non-significant:  $Z = -.996$ ,  $p = .337$ . There was no meaningful change from time 1 ( $M = 3.06$ ,  $SD = 2.10$ ) to time 3 ( $M = 3.40$ ,  $SD = 2.49$ , Cohen's  $d_{AV} = 0.150$ ). Translated, these numbers represent approximately 35.6% of patients at time 1, and 39% at time 3. See Figure 12.

### **Contra-indicated techniques.**

A Wilcoxon Signed-Rank Test for contra-indicated techniques (total  $n = 15$ ) also returned non-significant results ( $Z = 1.069$ ,  $p = .500$ ), indicating that participants' reports of their use of these techniques did not appreciably change from time 1 ( $M = .37$ ,  $SD = 1.17$ ) to time 3 ( $M = .20$ ,  $SD = .65$ , Cohen's  $d_{AV} = 0.183$ ). The lack of change in these control questions suggests that participants did not simply rate their use of various techniques higher across all items at follow-up. See Figure 12.

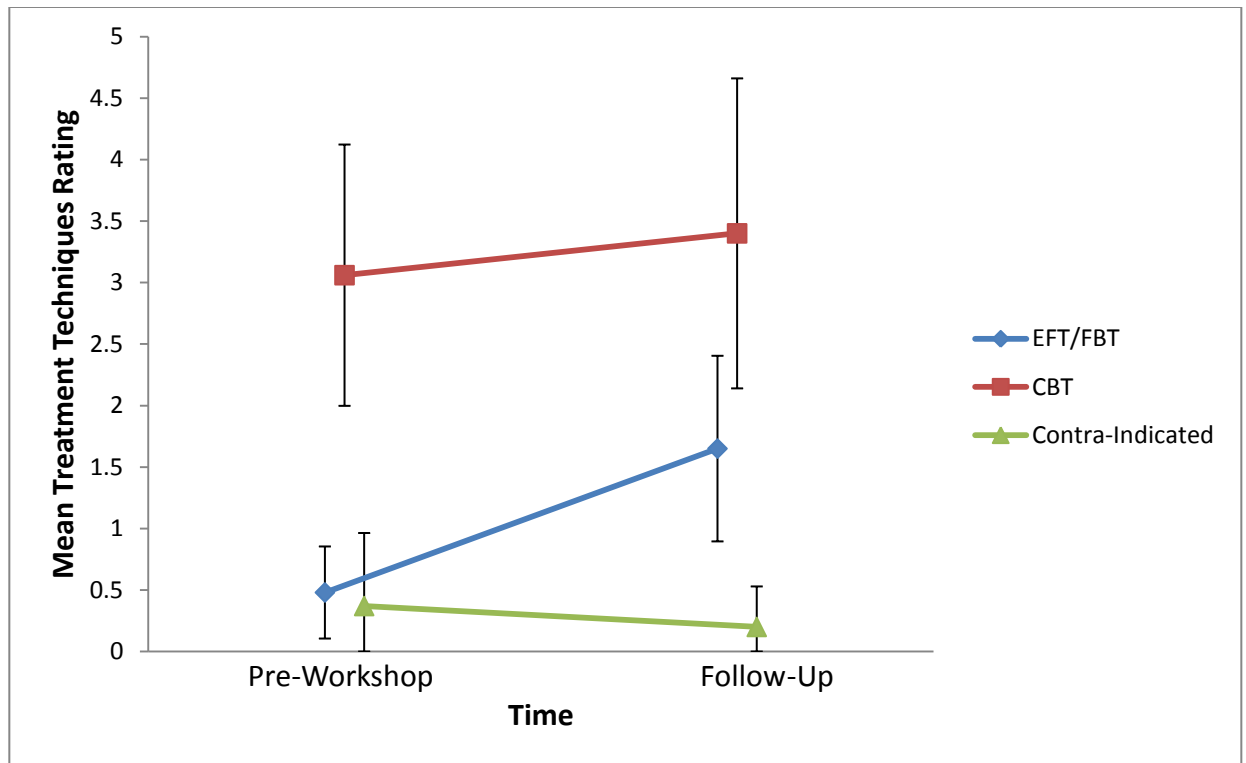


Figure 12. Proportion of participants' patients receiving EFT/FFT workshop techniques, CBT techniques, and contra-indicated techniques.

Note. Error bars represent 95% CIs.

### Workshop Feedback

Workshop feedback was collected only at the post-workshop time point. The feedback questionnaire contained 11 quantitative questions, each rated on a 5-point scale. Responses were coded such that 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. In general, the means of most of the feedback items fell at the midpoint between "Agree" and "Strongly Agree" ( $n = 66$  to  $73$ ), indicating that most participants had a positive reaction to most aspects of the training. There are two notable exceptions: first, participants' responses were close to "Agree" ( $M = 3.97$ ,  $SD = .95$ ) regarding the workshop enhancing their understanding of interprofessional collaboration. Second, the usefulness of the lunchtime session for building collaborative

connections was rated lower than other aspects of the workshop ( $M = 3.48$ ,  $SD = 1.09$ ), falling roughly between “Neutral” and “Agree”, and signifying that participants’ had a less positive reaction to this aspect of the training. See Table 6 for the full quantitative results of this questionnaire.

Table 6  
*Feedback Questionnaire Results*

Item	Mean Rating <sup>a</sup>	SD
Workshop enhanced my understanding of Interprofessional Collaboration	3.97	.95
Workshop enhanced my understanding of Emotion Focused Therapy	4.64	.51
Workshop enhanced my understanding of Family Based Therapy	4.51	.61
Workshop enhanced my understanding of attachment and identity in eating disorders	4.35	.59
Workshop enhanced my understanding of integrating Emotion Focused Therapy and Family Based Therapy	4.45	.58
Lunchtime session enhanced my knowledge of collaborators in my area	3.48	1.09
Workshop was well organized	4.37	.72
Workshop was interesting	4.55	.55
Presenters were well prepared and informed	4.70	.46
I would recommend this workshop to other professionals	4.60	.55
Overall, this was a meaningful learning experience	4.63	.54

<sup>a</sup> $n = 66-73$

### Practice Change Questionnaire

The Practice Change Questionnaire was given to participants only at follow-up (time 3), and it was designed to directly assess whether participants were practicing differently as a result of the training. Given the single administration, the results will be presented descriptively (see Table 7). The one scaled question on this measure was “In the last 6 months, with what proportion of your clients **with eating disorders** did you use the techniques that you learned from the workshop?”, and the response options were set

on a 10-point scale, ranging from “0-10%” to “90-100%”. Similar to the Treatment Techniques Questionnaire, responses were coded such that “0-10%” was coded as 0, “10-20%” was coded as 1, and so on until “90-100%” was coded as 9. The modal response was 0, and the data were positively skewed. The mean response on this question was 1.68 ( $SD = 2.53$ ), corresponding to using the techniques with approximately 21.8% of patients with EDs. This response is very consistent with responses on the Treatment Techniques Questionnaire (i.e., on that measure participants reported using workshop techniques with approximately 21.5% of patients with EDs at follow-up).

Table 7  
*Practice Change Questionnaire Results*

Item	<i>n</i>	# Yes	# No
1. Has your practice changed as a result of the workshop you attended in St. John’s on April 18 and 19, 2012 on Emotion Focused Therapy and Family Based Therapy for eating disorders?	31	17	14
2. Have you used techniques from the workshop?	31	17	14
4. Have you stopped using some techniques you used to use as a result of the workshop?	27	3	24
5. Have you tried to work more collaboratively with other professionals in managing clients/families affected by eating disorders?	29	24	5
6. Have you implemented the action plan that you created at the workshop?	31	18	13

Each of the seven questions on the Practice Change Questionnaire had additional space for brief qualitative comments, and many participants added their comments here.

*1. Has your practice changed as a result of the workshop you attended in St.*

*John’s on April 18 and 19, 2012 on Emotion Focused Therapy and Family Based*

*Therapy for eating disorders?*

The most common comment following this question was related to using EFT more in practice. It seemed that this portion of the training was the easiest to integrate, and the most applicable to the practice in which attendees engaged. Use of FBT was also common, but less so. One participant stated “Applied more of the EFT approaches and brought families in to be part of the work we do.” Others commented that while they might not be directly applying the techniques that were taught, the workshop was still a valuable learning experience that changed their practice in more subtle ways: “More than anything, I think it is a new lens to view things in your practice.”

*2. Have you used techniques from the workshop?*

The majority of participants who added comments to this question noted that they had begun to use some of the specific chair-work techniques taught in the EFT portion of the workshop. A few participants also shared that they had facilitated family communication using workshop skills.

*3. In the last 6 months, with what proportion of your clients with eating disorders did you use techniques that you learned from the workshop?*

Of the few comments offered in response to this question, most were an explanation of low integration of workshop skills resulting from the complexity of the techniques. For example, one participant said “I have not been using many of the techniques as I feel I require more hands on training.”

*4. Have you stopped using some techniques you used to use as a result of the workshop?*

No participants made comments about stopping the use of any valuable techniques. Rather, one noted “I have incorporated new techniques with old”, while

another said she stopped using “Misconceptions, wrong beliefs.” A third explained that she used to be personally invested in the client performing specific behaviours, but now she takes a more client-led approach to change.

*5. Have you tried to work more collaboratively with other professionals in managing clients/families affected by eating disorders?*

Participants who responded to this question almost all said that collaboration with other professionals was always very important in their practice. One participant was particularly excited about it: “Always endeavour to work more collaboratively. This is so important!!!!”

*6. Have you implemented the action plan that you created at the workshop?*

Responses to this item were quite mixed. Some participants were generally successful in implementing their action plans from the workshop: “I have implemented some of it. I feel pleased with what I have been able to accomplish.” However, others encountered more barriers, such as limited time and waning peer support: “Following the EDICCB conference 2010, seemingly there was more motivation by community participants, however that has waned given other mental health problems which have become priority.”

*7. What is the next step you are going to take in working better with eating disorders?*

Participants’ plans for future practice changes were quite varied. They included collaborating more with local professionals, seeking more training, using workshop techniques more often, working with schools, advocacy with management to seek

dedicated time to work with patients who have EDs, providing group-based therapy, screening for EDs more regularly, and remaining personally flexible and open-minded.



### **Discussion**

The purpose of this research was to evaluate the effectiveness of a continuing education workshop which included a combination of elements based upon continuing education theory and theories of behaviour change. The workshop's goal was to teach advanced Emotion Focused Therapy (EFT) and Family Based Therapy (FBT) techniques for working with eating disorders (EDs). The elements included a workshop style of delivery, a high level of interactive role-play of the techniques during the workshop, seating participants according to geographical closeness to facilitate connections, an exercise to have each attendee create an action plan and make a personal commitment to make changes to the way they practice around EDs, a reminder sent to attendees after the workshop to encourage them to implement their action plans, the involvement of the Community Facilitation Group, and a stage performance to illustrate some of the thoughts and feelings that a person with an ED might have.

This study used a quasi-experimental approach to program evaluation. The first objective was to determine whether the workshop had an immediate positive effect on participants' knowledge, confidence, motivation, and attitudes. To achieve this, survey measurements were administered immediately before and after the training. The second objective was to determine whether any changes brought about by the workshop would be maintained over time, and whether participants would make any concrete and substantial changes to their practice with EDs. This objective was carried out with further survey measurements after a follow-up period of twelve months. The third objective of this research was to gain a deeper and more nuanced understanding of the changes participants made to their practice, the facilitators and barriers related to making such

changes, and the way participants viewed the training. To achieve this objective, qualitative interviews were conducted subsequent to the follow-up survey with twelve workshop attendees to explore the personal experiences of health professionals engaging in continuing education and trying to implement new learning into their practices.

### **Summary of Findings**

In this section, each of the hypotheses will be examined in light of the results of this research.

#### **Workshop feedback.**

In general, the quantitative data from the Workshop Feedback form post-workshop was positive. The large majority of items fell clearly between “Agree” and “Strongly Agree”. One item fell near the “Agree” anchor (*The workshop enhanced my understanding of IPC*) which is not surprising given the lesser focus on interprofessional collaboration in the workshop. One further question fell between “Neutral” and “Agree” (*The lunchtime session enhanced my knowledge of collaborators in my area*), which appeared to be, at least in part, a reaction to using the lunch hour for additional work in the middle of an intensive workshop; some participants would have preferred a break. These results echo findings from other thoughtfully designed continuing education programs, and add to the literature which indicates that such programs are typically well received (e.g., Church et al., 2010). Some have garnered a less positive response (e.g., Rosenvinge et al., 2003), and in that case participants commented that they would have liked more time to practice skills, a greater focus on managing serious cases, and a clearer link between theory and practice. It may be that the present workshop provided training that matched participants’ expectations in general, although a few participants shared in

the qualitative interviews that the training did not seem relevant for them: (“Jamie: I did find that workshop interesting, but I did not find it that relevant to my practice”).

Participants’ positive reactions are consistent with previous findings that health professionals desire more training in working with EDs (Lafrance Robinson et al., 2013; Linville et al., 2012).

The positive feedback suggests that the workshop was successful at the first of Kirkpatrick’s (1996) evaluation of CE levels: reaction. It was well-received, which would be expected to encourage participants to pay attention and build positive attitudes about the material being presented. Many of the continuing education interventions focused on EDs discussed in this paper did not report on the first level of Kirkpatrick’s model—participant satisfaction levels; the present study is therefore one of few to add to this literature.

**Self-rated knowledge.** – 1a. Participants’ self-rated knowledge of techniques for managing EDs will increase from pre- to post-workshop, and be maintained at follow-up (as in Umble et al.’s [2000] *knowledge* variable, and related to Ajzen’s [1991] *perceived behavioural control*).

The results from the self-rated Knowledge Questionnaire indicate that participants rated their knowledge of techniques for managing EDs significantly higher after the workshop than before with a very large effect size. Those gains were maintained at the 12-month follow-up period, suggesting that the intervention was powerful enough that participants felt they had retained a significant amount of new knowledge, supporting this hypothesis.

Several items on the Feedback Questionnaire concur with these results: participants reported that the workshop enhanced their understanding of EFT and FBT, and to a somewhat lesser extent it enhanced their understanding of interprofessional collaboration. The qualitative results add further depth to these findings, with most participants' comments reflecting that they found the workshop to be very informative and interesting, exemplified by Jordan's statement: "I thought they did a great job, I want to applaud the initiative and the vision to bring this conversation to the light", and Shannon's comment: "I think they brought wonderful ideas to people like myself over the past year."

These findings offer strong support for hypothesis 1a (increased self-rated knowledge), as well as supporting the assertion that this workshop provided meaningful change at Kirkpatrick's (1996) second level of continuing education evaluation: learning. Participants gained important knowledge of new theoretical perspectives: "Evan: I find I'm more in tune with [when] they do express emotion like if they do become tearful or if they do- you know?"; and new skills for managing EDs with specialized techniques: "Adrian: I'm a lot more focused on including um, particularly the mothers if I can, but the whole family... and a lot more, I guess what they call that mother-daughter dyad type of work."

These findings are consistent with extant research reporting significant increases in self-rated knowledge following continuing education. Linville et al. (2013) evaluated a brief training session (60-75 minutes) about EDs for health professionals which included measuring changes in self-rated knowledge with a pre/post/follow-up design, although their follow-up was 6 months long. They found that participants rated their

knowledge and skills higher post-training than pre-training with large effect sizes ( $d=1.25$  for knowledge, and  $d=1.31$  for skills), and these gains were maintained without further significant change at follow-up. It is notable that with such a brief training session relative to the intensive two days in the workshop in my research, roughly comparable increases in self-rated knowledge were obtained. Based on Linville's descriptions the content of that training appears more foundational and may have been easier to learn or retain, compared to the new and complex theoretical perspectives being taught in the present workshop.

McCormack et al. (2013) reported on another brief training experience (typically 1-3 hours) on EDs for health and educational professionals, although the results were combined from a series of customized events across Western Australia. McCormack and colleagues found significant increases in self-rated knowledge on the order of more than 1 point on their 5-point scale, corresponding to a large effect size, and roughly comparable to the results obtained in my research. The fact that such brief interventions led to similar effects may be related to McCormack and colleagues measuring self-rated knowledge very simply, with one Likert-scaled question. Such a question can be interpreted very broadly, and might be open to more bias than the specific questions used in the present research. Their findings may also be related to the nature of the content in the continuing education they provided: from McCormack et al.'s (2013) description, the training appeared to be focused on more general and foundational concepts, potentially explaining the large gains in knowledge in a brief time period, in comparison to the similar changes in knowledge over a two-day time period in the present workshop which was focused on advanced and complex skills.

McVey et al. (2005)'s research also evaluated a series of continuing education activities for EDs over time, and measured self-reported knowledge on a 4-point Likert scale before and after each training event. As calculated from the reported data, participants rated their knowledge improved by 0.75 standard deviations after the training; a large effect size, and generally consistent with the present findings.

Follow-up data collection is rare among studies of continuing education on EDs for health professionals, apparently limited to this study and Linville et al. (2013). The finding that self-rated knowledge was maintained after 12 months indicates that the benefits of this continuing education are persistent. Further, to my knowledge, the present study also is the second one to combine pre/post/follow-up data collection with additional thorough qualitative data (the first was Linville et al, 2013). In this case, the qualitative results add depth and strength to the quantitative results, with participants providing explicit examples of the knowledge they have gained. This kind of increase in knowledge is a key part of behaviour change, as knowledge is related to a person's self-efficacy regarding a particular behaviour, and therefore ultimately related to the performance of that behaviour (Umble et al., 2000).

**Tested knowledge.** – 1b. Participants' objectively measured knowledge of therapeutic techniques for EDs will increase from pre- to post-workshop, and be maintained at follow-up (as in Umble et al.'s [2000] *knowledge* variable, and related to Ajzen's [1991] *perceived behavioural control*).

The multiple-choice measure testing general ED knowledge did not yield significant results overall. However, on the subset of six questions most directly related to the workshop material (i.e., principles of EFT and FBT), there was a significant

increase in correct answers over time with a medium-to-large effect size. The mean score at post-workshop fell between the pre-workshop and follow-up scores, creating an increasing linear pattern over time, but there were no significant differences between each pair of scores.

There are two important issues to consider regarding these findings. First, four of the items in this questionnaire were related to principles of CBT and general knowledge of EDs—topics which were not addressed in the workshop—and so they would not be expected to change. Therefore, it is unsurprising that including those items in the overall analysis dilutes the change that occurred in the more pertinent EFT/FBT items. In fact, when separated from the EFT/FBT items, the CBT/general items provide a useful comparison. CBT/general items did not change significantly, which indicates that participants' knowledge gain was specific to EFT/FBT workshop content, and not a result of improved overall performance while completing the measures (e.g., due to participants simply trying harder during one of the data collections, or gaining general experience over time).

Second, the pattern of increase in objectively measured EFT/FBT knowledge was unexpected. It was expected that knowledge would increase immediately as a direct result of the workshop, and either be maintained or decrease over time (e.g., Guardini, Talamini, Fiorillo, Lirutti, & Palese, 2008; Parrish & Rubin, 2011). However, knowledge trended upwards from time 1 through time 3. There are several possible explanations for this finding: (1) participants may have required time to consolidate their learning. Bockting, Rosser, and Scheltema (1999) found a similar pattern in tested knowledge about HIV prevention, with non-significant increases from pre- to post-intervention and

post to follow-up, but a significant effect overall. The researchers suggested that participants may have required time to “digest and assimilate” the information. This pattern was also found by Munro, Watson, and McFadyen (2007) in a study of continuing education about comorbid mental health and substance use problems; (2) perhaps some participants continued to seek training and information about EFT and FBT for EDs, as some of the participants of the interviews suggested (“Shannon: [The presenters] ... did another 4-day training in Toronto in June of this year, and I managed to get the funds here to attend that”); (3) it is possible that participants who were more engaged with this material and retained greater knowledge were more likely to participate in the follow-up, leading to a self-selection bias (although they did not differ from non-responders on any demographic variables examined except for having attended an earlier EDICCB workshop); (4) and it is possible that the finding is an artefact of chance variability in the data.

One of the few objective measurements of learning about EDs through continuing education in the literature was described by Rosenvinge et al. (2003), who used the Eating Disorder Competence Index (EDCI) to gauge knowledge changes after a long-term educational program. Rosenvinge and colleagues did not report the effect size for this analysis, but based on their reported data it was approximately 0.6 standard deviations; a moderate improvement on the EDCI, which appears to be broadly consistent with the present objectively measured knowledge results.

In summary, these results provide tentative support for hypothesis 1b (increased objectively measured knowledge), but it is unclear whether the workshop directly contributed to changes in tested knowledge given the non-significant change from pre- to



post-workshop, or whether other factors noted above contributed to the significant increase in EFT and FBT knowledge overall. Similarly, the results add tentative support to the assertion that the workshop had an impact on Kirkpatrick's (1996) second level of evaluation of CE (learning), as the knowledge changes may have been a direct or indirect result of the workshop, but the other explanations discussed above are also possible.

**Confidence.** – 2a. Participants will report higher confidence levels from pre- to post-workshop, which will be maintained at follow-up in: addressing and managing EDs in general; using EFT and FBT techniques; and engaging in interprofessional collaboration (related to *self-efficacy* or *perceived behavioural control*; Umble et al., 2000; Ajzen, 1991).

The results of the Confidence Questionnaire indicated that participants rated their confidence in addressing EDs, using EFT and FBT techniques, and engaging in interprofessional collaboration significantly higher after the workshop compared to prior to the workshop, with a very large effect size. This change was maintained at follow-up. These results provide evidence that participants felt more confident in their ability to assess and treat EDs as a result of the workshop, and support this hypothesis.

The qualitative results from the interviews provided more depth to this finding. Several participants noted that they did feel more confident and comfortable using the techniques taught in the workshop ("Leslie: I'm trying to use some of the strategies [from] the workshop, actually I'm actively involved with a client now who has a lot of anger and we're just starting to use some of the EFT"), while others shared that while they were more confident about using EFT and FBT skills, they did not yet feel sufficiently trained to use some of those skills ("Adrian: If the situation is right I'll sort of

perhaps um, have them speak to an empty chair or something like that but, I do feel that I need more training in it”). A few participants felt very low confidence in implementing these new skills, especially when they were a professional that would not normally use these types of therapeutic techniques such as a dietitian (“Jamie: I did not find it that relevant to my practice”). The overall experience seemed to be that most participants felt at least somewhat more confident in using such specialized techniques, but not everyone gained sufficient confidence to practice at their comfort level.

Overall, these results provide strong support for hypothesis 2a (increased confidence). These changes in confidence are similar to those obtained by McCormack et al. (2013), whose reported results were used to calculate a large effect size (around 1 point on a 5-point Likert scale) for increased confidence in working with EDs following their continuing education sessions. As described in the discussion of hypothesis 1a, those training sessions were briefer and focused on more foundational skills for working with EDs. If the material was easier to learn as a result of being more foundational, that could explain how they achieved large gains in confidence in a much briefer time compared to this study. The present results are also similar to those reported by McVey et al. (2005), who found that their interventions increased confidence in treating EDs and teaching a body image and self-esteem curriculum on the order of about half a point on a 4-point Likert scale, or roughly a medium-sized effect. Again, the EFT/FBT workshop was longer than McVey and colleagues’ intervention, which could account for the greater effect size in the present research. Given the desire for further training expressed in the qualitative interviews in my project, it seems likely that a briefer training on EFT and

FBT for EDs would have been less effective—perhaps as a result of the complexity of the material and therefore the greater time investment required to learn it.

**Motivation to use EFT.** – 3a. Participants will report higher motivation for using EFT techniques for EDs from pre- to post-workshop (consistent with *intention*; Ajzen, 1991).

Motivation to use Emotion-Focused Therapy with EDs was measured using four response rulers with 10-point scales, focused on the related concepts of motivation, readiness, willingness, and confidence, which were combined into a composite motivation variable. There was essentially no change in participants' overall motivation to use EFT from pre-workshop to post-workshop. This finding was unexpected since the workshop was designed with elements that have been demonstrated to promote changes in behavioural intentions (a very similar construct to motivation), such as being based on a theoretical model of behaviour change, increasing participants' skills and allowing time to practice those skills, and being presented by experts (Webb & Sheeran, 2006).

There are two plausible explanations for this finding. First, it is possible that the workshop simply had no effect on participants' motivation to try the techniques that were being taught. The second explanation is that perhaps there was a change in motivation, but the period of measurement did not capture the change. In particular, it is possible that hearing about the workshop, signing up, and reading preparatory materials increased participants' motivation to fairly high levels, which did not change further during the workshop. In either case, it appears that the variety of workshop elements designed to encourage participants to change their practice did not affect their overt motivation to use EFT. While levels of motivation did not change in the measurement period, they did

remain at a high level pre- and post-workshop, indicating that participants wanted to implement new EFT techniques.

**Motivation to use FBT.** – 3b. Participants will report higher motivation for using FBT techniques for EDs from pre- to post-workshop (consistent with *intention*; Ajzen, 1991).

Motivation to use Family Based Therapy with EDs similarly did not significantly change from pre-workshop to post-workshop. This finding does not support hypothesis 3b and was unexpected. Similar explanations may be offered: either the workshop did not have an effect on motivation to use FBT, or motivation was changed at an earlier time, before it was measured. Motivation remained at a moderately high level, indicating that participants wanted to implement new FBT techniques.

**Motivation to use interprofessional collaboration.** – 3c. Participants will report higher motivation to engage in interprofessional collaboration for EDs from pre- to post-workshop (consistent with *intention*; Ajzen, 1991).

Motivation to engage in interprofessional collaboration for EDs did not change significantly from pre- to post-workshop, but the results trended toward an increase. Given the marginal change in scores (Cohen's  $d_{AV} = 0.165$ ), this cannot be taken as clear support for hypothesis 3c, but it suggests that there might have been a small effect resulting from the intervention.

The focus on interprofessional collaboration was much less prominent than EFT and FBT in the content of the workshop, so large changes in this area were not expected. However, collaboration was encouraged in some of the workshop content, as well as through geographically organized seating placements and the lunchtime action plan

exercise which was explicitly interprofessionally focused. An additional possible explanation for the lack of significant change is that interprofessional collaboration was a prominent focus of the first six EDICCB workshops across Newfoundland and Labrador, and many of the attendees of the present workshop (34/78 or 44% of those who completed the pre-workshop survey) also attended one of those earlier workshops. It is possible that many current participants were already highly motivated to engage in interprofessional collaboration for EDs (an idea supported by the fact that pre-workshop mean scores were already high, 7.89 out of 10), which may have resulted in a ceiling effect such that the present workshop could not raise motivation further.

To my knowledge there is no published research describing changes in motivation resulting from continuing education for EDs. Participants in the Church et al. (2010) study, which was focused on interprofessional practice in mental health broadly, shared in their qualitative comments that the program increased their motivation to attend more training. Webb and Sheeran (2006) conducted a meta-analysis of the effect of experimentally changing behavioural intentions on behaviour. They found that of 47 studies included in the analysis in which intention was significantly increased through intervention, 24 were associated with a significant change in behaviour, while 23 were not. Critically, Webb and Sheeran eliminated 15 studies which did not produce significant changes in behavioural intentions from their meta-analysis because that was not the focus of their main analysis, but they did provide a brief analysis of this group of studies. They found that interventions which did not change intentions nevertheless had a small impact ( $d = 0.20$ ) on behaviour change. Similarly, the present study's findings suggest that there are variables aside from intention that are also capable of mediating the

relationship between continuing education and behaviour change. Webb and Sheeran's (2006) findings concur: they found that interventions had a significant impact on behaviour change, even after controlling for the mediating effect of intentions. Based on the results of the present study, some tentative hypotheses may be formed: changes in knowledge and confidence may have a direct impact on behaviour change. Webb and Sheeran (2006) also suggest that social factors and simple behavioural cues or habit formation may also be involved in predicting specific behaviours.

It is difficult to compare other research on motivation and behavioural intentions to the present study because there may be unique factors at play in predicting the use of advanced therapeutic techniques, such as ethical and competency requirements ("Evan: I can't take [EFT and FBT] and use a whole lot of it, um, I could I suppose but I'm not trained to deal with what might arise out of it, you know."), organizational barriers and facilitators ("Evan: Because eating disorders is such a small fraction of our overall case load, it's hard to justify the time to management"), complex knowledge requirements ("Taylor: You can't do an empty chair exercise with somebody if you're not well grounded in different therapeutic approaches so you can handle whatever comes up"), and limited patient numbers in some cases ("Leslie: it would be great to go and say 'ok I'm going to work with eating disorders ...' but ... because I'm so generalized it's impossible to do that"). Further research is needed in this area to clarify the impacts of various factors on behaviour change, when the behaviours in question are so complex.

**Attitudes towards interprofessional collaboration.** – 4a. Participants will report improved attitudes toward interprofessional collaboration from pre-workshop to post-

workshop, and these attitudes will be maintained at follow-up (related to *agreement* and *attitudes* in models of behaviour change; Ajzen, 1991; Umble et al., 2000).

The Attitudes Toward Interprofessional Care of Patients/Clients with Eating Disorders Scale was used to measure such attitudes. There were no significant changes between pre-workshop, post-workshop, or follow-up. This finding fails to support hypothesis 4a. At each time point the mean score was above 4 (on a 5-point scale, where 1 is negative, 3 is neutral, and 5 is positive), indicating that in general participants held positive attitudes towards interprofessional collaboration for EDs throughout the measurement period.

In the literature, some continuing education programs have also found no significant changes in attitudes after an intervention (e.g., Chally, 1998), although in that study the intervention was very brief at just one hour while the present workshop was a full two days. Thus, an insufficient dose of continuing education is not a likely explanation in the present case. Linville et al. (2013) found significant increases on five items relating to attitudes towards EDs after their continuing education program, although there was no significant change in the attitudes scale overall. Thus, the authors found some evidence for changing attitudes towards EDs. Among the studies reviewed, attitudes appear to be more difficult to change than knowledge. However, a program that was focused specifically on interprofessional practice succeeded in changing attitudes towards other professionals (Carpenter, 1995), and that study's specific focus on such targets may explain its significant findings compared to the present research.

The explanations for the finding in the present study may be similar to those for hypothesis 3c (increased motivation to engage in IPC) above. Namely, the present

workshop was not as focused on interprofessional collaboration as it was on EFT and FBT; and many attendees were part of the earlier workshops that focused more heavily on interprofessional collaboration, so their attitude scores may have been affected by a ceiling effect, having been already brought close to the maximum score. Indeed, the previous EDICCB workshops increased attitudes toward interprofessional collaboration from  $M = 4.07$  pre-workshop to  $M = 4.36$  post-workshop using the same questionnaire (Heath et al., 2012), a significant finding, but in a similar range as the present results (i.e., between  $M = 4.13$  and  $M = 4.24$ ). In contrast to the present study, Heath et al. (2012) may have found significant results due to the study's larger sample size, and the training's explicit focus on interprofessional collaboration.

**Practice changes.** – 5a. Participants will make changes to their practice around EDs following the workshop (i.e., *behaviour* in the theories of behaviour change; Ajzen, 1991; Umble et al., 2000).

The Treatment Techniques Questionnaire provides the clearest evidence relevant to this hypothesis. In particular, regarding EFT and FBT techniques taught in the workshop there was a significant change in the proportion of patients with whom attendees used these skills from pre-workshop (approximately 9.8%) to follow-up (approximately 21.5%, with a large effect size). This finding suggests that while the number of patients who are receiving these techniques is a minority, it represents a substantial increase compared to the situation before the workshop.

Due to the possibility of self-reporting bias or careless responding on this measure, two contra-indicated technique items ('Aversive conditioning' and 'Educating about # of calories in food') were added to the Treatment Techniques Questionnaire as a



control measurement. There was no significant difference in the use of these techniques between time points; their use remained very low at both points. While these items did not provide a perfect control for the EFT/FBT items because they may have been recognizable as contra-indicated techniques by some professionals, they were designed to appear plausible. As such, they do provide some additional confidence in concluding that the increase in EFT/FBT skill use was a legitimate effect of the intervention and not the effect of socially desirable responding on the questionnaire. These results support hypothesis 5a (practice change following the workshop)

On the Practice Change Questionnaire administered at follow-up the single scaled question regarding use of techniques taught in the workshop produced a result very consistent with the Treatment Techniques Questionnaire. Specifically, participants rated that on average they used workshop techniques with about 20% of their patients. Just over half (17/31) reported that their practice had changed as a result of the workshop, and the same number reported they were using techniques from the workshop.

The qualitative results provide a depth to our understanding of how practice has changed as a result of the workshop. There were some participants who made drastic changes to their practice in response to the workshop, those who made minor or incremental changes, and those who made few or no changes. Those in the first group may have been few in number, but some reported wholeheartedly embracing the EFT/FBT model of treatment for EDs, and using the skills taught in the workshop with a large proportion of their patients (“Shannon: I now have much more in-depth training which I’m so excited about... I’m now ready to um, go further with participating in a family parent workshop ... that’s coordinated by [one of the workshop presenters].”) The

group of participants who made small, incremental changes to their practice appeared to be larger; these professionals seemed to appreciate having more skills and tools and an alternate perspective to use with their patients who have EDs (“Adrian: I’m a lot more focused on including um, particularly the mothers if I can, but the whole family.” and “Evan: I find I’m more in tune with [when] they do express emotion like if they do become tearful or if they do- you know? ... Their reactions, their facial expressions.”) Another sizeable group did not make appreciable changes to their practice following the workshop, and generally did not use the skills that were taught for a variety of reasons (e.g., they wanted further training, or the skills did not apply to their profession: “Jamie: I did not find it that relevant to my practice. Um, it was more focused around um, counselling. It would be more for like psychologists, social workers, things like that.”). Others noted that time investment was a barrier, organizational practices and policies limited their ability to try new behaviours, and that simply accessing people with EDs to provide services was difficult (“Ashley: So the [professionals] that are working with [people with eating disorders] may be in a position to feel like they need to be kind of guarded about um, you know, who gets to work with these people.”). When combined, these groups represent a picture consistent with the quantitative findings of the average practice change being a modest one. With only the quantitative data, it would not have been possible to describe these groups in such detail. The qualitative data provided the opportunity for participants to share how the workshop affected their practice, which complements the quantitative summary statistics (such as group means, in this case). It also allowed participants to explain that aside from the specific techniques taught in the

workshop, their understanding of EDs and the way that they practice has changed in many small ways as well.

Taken together, these results provide consistent support for hypothesis 5a (practice change following the workshop). They also demonstrate that important changes were made at Kirkpatrick's (1996) third level of evaluation of CE: behaviour. While not everyone changed the way they practice, there were often identifiable barriers that could be targeted in the future (such as systemic barriers, needing more training, etc.). Some other participants did implement their learning in the real world, in varying degrees. The success of the workshop in this regard is likely to be a result of several factors combined: the knowledgeable and engaging presenters, the focus on role-playing and practicing therapeutic techniques, the multi-media presentation of the material, the personal and social commitments of the action plan exercise, the reminders about participants' action plans after the workshop, and the presence of the Community Facilitation Group in many geographical areas.

Changing behaviour can be difficult. In a meta-analytic review of continuing medical education, Davis et al. (1999) found that in 9 of the 17 studies selected, physicians' clinical behaviour was modified by continuing education targeting those respective behaviours. Conversely, in 8 of the 17 studies, there was no significant change in behaviour. Similarly, in a comprehensive literature review of continuing medical education, Marinopoulos et al. (2007) found that in 61 out of 105 identified studies physician behaviour was significantly changed, while in 44 studies it was not. The present study, in finding significant behaviour changes, falls within the slight majority of published research to successfully change behaviour through continuing education. In

terms of effect sizes for behaviour change, research on continuing medical education has typically found small effect sizes overall ( $r = .18$ ; Mansouri & Lockyer, 2007). The present study lacked a control group which limits comparisons to the most stringent meta-analyses, but the large effect size in behaviour change is encouraging compared to the small effects found in previous research.

**Maintenance of evidence-based skills.** – 5b. Participants will maintain their use of evidence-based skills that are not part of the workshop, namely, cognitive behavioural techniques.

The use of CBT skills did not significantly change from pre-workshop to follow-up: participants consistently reported using these techniques with 30-40% of their patients. These findings support hypothesis 5b, which was expected, because CBT techniques were not part of the content of the current workshop. It was intended that the EFT and FBT techniques being taught would be added to participants' skillsets, rather than replacing existing evidence-based approaches, such as CBT.

Only a small minority of participants reported on the Practice Change Questionnaire that they had stopped using any techniques as a result of the workshop (3/27), and some of those three participants included explanations about discontinuing the use of unhelpful strategies (i.e., they did not report stopping the use of evidence-based and helpful skills).

I was not able to find any empirical research on the question of whether training professionals to perform a new kind of behaviour reduces the performance of alternative, equally viable behaviours. The closest comparison I could find was a substantial literature on the pharmaceutical industry's interest in, and influence on continuing

medical education, and the subsequent effect on physician prescribing behaviours.

Clearly, directed persuasive messages (for example, to use a specific drug for a particular problem) change physician behaviour, and can replace alternative behaviours (such as prescribing a different drug; Kerridge, 2011). However, the case of multiple modalities of psychotherapy may be different, because often techniques from multiple therapeutic modalities can be used with the same patient; they are not always exclusive, and it may in fact be beneficial to combine modalities (Fernández-Álvarez, Consoli, & Gómez, 2016). Additionally, in the present research, there was no effort to replace alternative behaviours with those being taught in the workshop; indeed, it was hoped that health professionals would integrate new skills into their current practice. The extant literature offers very little guidance regarding the possibility of continuing education interfering with previously used evidence-based skills.

**Interprofessional collaboration.** – 5c. Participants will engage in more interprofessional collaboration around managing EDs (i.e., *behaviour* in the theories of behaviour change; Ajzen, 1991; Umble et al., 2000).

On the Practice Change Questionnaire at follow-up, 24 out of 29 participants (83%) reported that they had tried to engage in more interprofessional collaboration for EDs since the workshop, which supports this hypothesis.

The qualitative interviews provided more depth of understanding about the participants' experiences with interprofessional collaboration in working with EDs. Some participants reported that they were more actively engaged in interprofessional collaboration for EDs ("Leslie: One of the most positive things that has happened is that we've really uh, increased our alliance with the dietitians in the eating disorder group"),

while others had not changed their patterns of collaboration and noted the barriers that prevented them from doing so (“Evan: To take the time out to get together to meet with, you know, and arrange convenient times for myself and other professionals to get together is very difficult as well because I mean they have a busy workload as well”). Some of the barriers included the time expenditure of collaborating, long distances between colleagues, difficulty organizing schedules, and the inefficiency of holding a regular meeting when a professional had few patients with an ED. At the same time, those who did engage in more interprofessional collaboration shared that it was a highly valued activity for them, and it improved patient care, allowed each professional to focus on their strengths and competencies, and made professionals feel supported as part of a team (e.g., “Leslie: I think clients are getting a better service, you know because everyone’s on the one page and everyone knows what the other person’s doing”).

Based upon the above evidence, these results provide moderate support for hypothesis 5c (increased interprofessional collaboration for EDs). They also provide additional support for the assertion that the workshop was effective at Kickpatrick’s (1996) third level, behaviour change. These changes in interprofessional collaboration are most similar to the findings in Church et al., (2010), in which the qualitative results indicated that the intervention improved participants’ interprofessional collaboration in mental health practice and opened new professional relationships. That intervention was heavily focused on interprofessional education. By comparison, the present intervention included less focus on interprofessional collaboration, but still resulted in important changes in this area. Some of the elements that appeared critical to these changes were the geographically organized seating plan, the action plan exercise and discussions, and

the leadership of the Community Facilitation Group. Some of the results published by Rosenvinge and Petterson (2016) suggest that their participants engaged in more interprofessional collaboration following continuing education (for example, the intervention raised agreement with the statement “I see myself as a local resource person in the field of eating disorders”), although they did not measure the behaviour of collaboration as in the present study.

### **Strengths and Limitations**

This study has several important strengths. One of these is the use of multiple methods of investigation. The quantitative aspects of this project provide clear measurement of key variables. The complementary qualitative techniques provide much greater depth of information, and insights into factors that were not expected, and so could not be investigated with pre-selected quantitative instruments. The qualitative interviews also provided confirmation and expansion of many of the quantitative findings, leading to a more complete understanding of the results.

Another important strength is the very high pre-workshop and post-workshop participation rate. While the follow-up participation rate was not as high, nearly every eligible attendee completed the measures prior to and following the workshop. This high rate of participation lends strength to the results from that portion of the analysis and rules out issues related to response bias.

There are also several noteworthy limitations to the present study. First, this research is quasi-experimental in nature with a pre/post/follow-up design. The creation of a control group was not feasible, in part because of the difficulty of matching the diverse attendees, and the relatively small number of health professionals in

Newfoundland and Labrador from which to draw. As such, changes reported in dependent variables over the course of the study are subject to alternative explanations. It is also the case that the attendees are a self-selected group who were likely particularly motivated and interested in the subject matter of the workshop, which could mean that they were especially motivated to learn, and to demonstrate that learning.

A second limitation is that the majority of the measures used were based on self-reports rather than objective measurements. As a result, some of the data is susceptible to individual biases in explaining changes over time. To manage this issue the objectively measured knowledge tool was constructed to supplement the self-reported knowledge data. In addition, data was quantified as much as possible (for instance, patient percentages on the Treatment Techniques Questionnaire) to aid participants in providing accurate responses.

A third limitation, stemming from limited resources, was the lack of measurement of patient outcomes to assess Kirkpatrick's (1996) fourth level of continuing education evaluation (results at a practical or patient-based level). Such information would be very valuable in determining the ultimate effectiveness of the workshop, but it is also very difficult to collect. There were not sufficient resources to contact patients with EDs and measure changes in the care they received in a meaningful way.

Finally, some of the analyses are limited by incomplete follow-up participation. The fact that not all of the participants responded to the follow-up measures leaves open the possibility of a bias in the responses. However, as noted above, follow-up completers did not differ significantly from non-completers on any of the demographic variables that were measured except attendance at a previous EDICCB workshop, which mitigates the



possibility of bias in the data. The follow-up participation rate in this study (31/78, 40%) was somewhat lower than the 6-month follow-up participation rate in the study by Linville et al. (2013; 58% of respondents completed surveys at all three time-points). Despite the efforts in the present study to encourage participation (discussed in the Methods section), participation may have been limited by the long 1-year follow-up period, due to participants changing contact information or moving to new positions and therefore being inaccessible, or losing interest in the subject matter. The length of time required to fill out the measures package (about 20 minutes) may have also been a barrier for busy professionals.

### **Clinical and Practical Implications**

Effective continuing education is a critical tool to help health professionals provide the best services possible, given the challenges of keeping up with new research and best practices. The most important implication of this research is that workshops *can* be an effective method of continuing education for teaching complex, high-level skills to work with EDs to a wide range of health professionals. With a well-selected array of evidence-based elements, such as interactive training (Bloom, 2005), multimedia presentation (Marinopoulos et al., 2007) ongoing reminders and support (Bloom, 2005), and specific exercises to help attendees plan the changes that they wish to make in their practices and target variables that predict behaviour (e.g., Ajzen, 1991; Umble et al., 2000), a training endeavour such as this one can have a measurable and clinically relevant impact on health professionals' behaviour in their work. Given the relative cost-efficiency of workshop-style continuing education, this is an important method for disseminating new information and skills.

Based on the proportion of participants who changed their practice after the present workshop and the comments that participants made in the interviews, it is clear that teaching complex therapeutic skills requires a significant time investment. Some participants began using the specific skills from the workshop, but many others did not. Several participants stated the need for further training before they could feel comfortable using such skills, and some of those sought further training on their own to meet that need. While the training that was provided was sufficient for some attendees to integrate the information and put it into practice, in the ideal case there would be more training sessions and support to help more attendees use the skills. Such ongoing support could be in the form of scheduled training sessions over time, ongoing webinars, expert-led conference calls as in the earlier series of EDICCB workshops, or other methods. This kind of extended contact affords participants the ability to practice new skills and return to the group to seek feedback, ask questions, and troubleshoot problems in an iterative process (e.g., Church et al., 2010).

Several participants commented that they found printed take-home material very helpful as an adjunct to in vivo training. This appeared to be especially true for those attendees who practiced as generalists; since they came across so many different presenting issues, it is valuable for them to have high-quality materials to reference when a patient arrives with a specific issue that may not be common. In particular, participants seemed to appreciate highly practical assessment and treatment tools and information.

A few additional points about the organization of the workshop are also important. Participants were less than enthused in their feedback about the lunch time action plan exercise, but this seemed to be largely a function of wanting a break in the

middle of an intensive day of learning new skills. It is also important to ensure that the material being presented matches the audience. While it is important for all professionals working collaboratively with others on EDs to understand the treatment model being used, in the present case a number of attendees felt as though the material was heavily directed towards professionals with a psychology or counselling background. They did not believe that much of the material applied directly to the way that they practice. If possible, future training might benefit from adding elements that are more directly applicable to a wider variety of health professionals.

In the interviews, participants raised a wide variety of possible improvements that they would like to see in the way that Newfoundland and Labrador serves people with EDs and their families. Some of these ideas include:

- Helping all professionals in the province who work with people who have EDs to use the most up-to-date practices.
- Clear protocols for managing EDs throughout all stages of the process, and for different professionals.
- More public awareness and anti-stigma initiatives.
- More government funding for health care services, and especially mental health services that people with EDs need. Funding for new initiatives created by community professionals would also be very valuable.
- Temporary housing and other accommodations for families that must travel to reach specialist services.
- Formal time off work and support from health care organizations for their employees to seek continuing education.

- A more complex and nuanced understanding among health care organizations of the particular needs of patients with EDs, and what is required for health care professionals to work with them (i.e., appropriate appointment length, time for communicating with other professionals, etc.).
- An expansion, both formally and informally, of services for EDs to include disorders of overeating (such as binge-eating disorder) and males with EDs.
- Greater coordination of ED awareness efforts, so that the impact can be enhanced.

It is an imposing list, and there might be disagreements about the particulars of many of the items. Certainly most if not all of these items are limited by available funding and human effort. It is clear that while there are many dedicated professionals and *some* high-quality services available, there is a lot of room for improvement in Newfoundland and Labrador's services for people with EDs.

### **Future Research Directions**

An important expansion of the present research would be to address Kirkpatrick's (1990) fourth level of continuing education evaluation by studying the ultimate results in patient care. There are several ways to go about such a project, but the options include reviewing health professionals' files to monitor the interventions used and patient outcomes, proactively tracking certain aspects of treatment as it happens, or surveying and interviewing patients before and after their health professional completes a continuing education experience. Some of the key outcomes could include patient access and use of services, rates of recovery from EDs, change in severity of illness or symptoms, hospitalization rates, rates of referral to collaborating health care providers, and satisfaction with services.

As noted above, several participants of the present research suggested that more training would have been helpful. Future research could explore whether there is a clear dose-response relationship between the amount of training and the likelihood of behaviour change, and if so, what is the shape of that relationship. For instance, beyond what point does further training provide diminishing returns that become simply inefficient? There is no shortage of research demonstrating that education can lead to behaviour change, but because the behaviours in this case are advanced therapeutic skills and new therapeutic modalities in which to provide care, the extant research may not be directly applicable. In addition, exploring various types of extended training (i.e., more of the same sessions, web sessions, conference calls, information packages, reminders, local consultation groups, etc.) could help to identify both the most effective and most efficient means of supporting behaviour change in this area.

In a similar but more theoretical line of inquiry, further research is needed to clarify the relative importance of factors in models of behaviour change and persuasion. There are many different models of persuasion (for an overview, see Cameron, 2009) in addition to the ones used in this research, each with their own merits and evidence. However, no model yet devised will fit any situation perfectly. They are, at best, approximations that allow a moderate level of accuracy in predicting and influencing behaviour change. There are likely many more factors, mediators and moderators that contribute to changes in behaviour, and these yet-unknown factors should continue to be discovered and studied in a wide variety of circumstances. This particular research endeavour suggests the need for determining the role of motivation in changing very complex behaviours, following the finding of a significant behaviour change (i.e., using

EFT and FBT skills) in the absence of a significant change in motivation to use those therapeutic techniques. In general, it is also unclear how accurately current models of behaviour change apply to very complex behaviours, such as the use of a therapeutic modality.

Finally, there is a dearth of literature examining the question of whether it is possible for continuing education to inadvertently interfere with or replace previously learned and used evidence-based skills. Research is sorely needed to determine whether there are certain circumstances or factors that lead to counterproductive replacement of viable skills. Psychotherapy skills are a theoretically possible candidate for such research, since for many types of problems there are a variety of viable treatment modalities; one would not necessarily want to interfere with health professionals' use of those evidence-based behaviours.

## **Conclusions**

Ultimately, this workshop accomplished many of its goals, and created several measurable and positive effects. Notably, there were increases in knowledge and confidence in using EFT and FBT techniques, some participants put these techniques into practice, and most participants tried to work more collaboratively with other professionals.

Some predictions were not borne out, such as the lack of change in motivation to use workshop techniques, and some questions remain about the particular role of motivation in changing complex behaviours such as those in the present training.

This research is the second study to use a follow-up design in continuing education for EDs, and used a longer follow-up period than the other study. It is also the

second to collect in-depth qualitative data to complement the quantitative data. It is one of few to report on participant satisfaction among studies of ED continuing education, and the first to explore changes in motivation to engage in new skills for working with EDs following continuing education. In these ways in particular, this research offers a meaningful contribution to the literature.

This research supports the literature in general in concluding that with a little bit of support, such as high quality continuing education, individual health professionals can make significant and highly impactful changes to the services that are offered to people with eating disorders and their families.

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## Appendix A – Informed Consent Form

### PRE-EVALUATION

#### Working better with eating disorders: Combining emotion focused and family-based interventions across the lifespan



The purpose of this program is to enhance the knowledge, skills and practice of professionals through an interprofessional training program on advanced intervention skills for eating issues/disordered eating/eating disorders.

#### Learning Objectives:

Following this two day workshop participants will be able to:

- Explain how Emotion Focused Therapy (EFT) can be applied in working with clients and families affected by eating disorders
- Use EFT in working with clients and families for eating disorders
- Identify issues in the assessment and treatment of eating disorders across the lifespan
- Describe the basic principles and phases of Family Based Therapy (FBT) for use with eating across the lifespan
- Integrate EFT and FBT for use with clients and families across the lifespan dealing with eating disorders
- Utilize the combined approaches (EFT & FBT) to treat clients and families with eating disorders
- Identify potential collaborators in the participant's local area with whom to share the care of these patients
- Identify practical changes which can be realistically made to the participant's own practice

As part of the systematic evaluation of the program, we are surveying all participants prior to, immediately following, and approximately six months after the completion of the workshop with regard to:

- **knowledge** of and **confidence** in the management of eating issues/disordered eating/eating disorders
- **attitudes** towards interprofessional collaboration
- **reaction** to the workshop
- **changes** in practice as a result of the workshop

We invite you to support this initiative by completing the attached survey which will take approximately 20 minutes. Participation is entirely voluntary. You can leave blank any questions you feel uncomfortable answering and you may withdraw from the survey at any time. Identifying information obtained from you or about you during this study will be kept confidential by the research coordinator. Selected anonymized data may be shared with other involved researchers for the purpose of evaluation.

Please complete the survey and pass into the session moderator in the sealed envelope provided. Completion and return of the survey implies your consent. **PLEASE KEEP THIS COVER LETTER FOR YOUR RECORDS.**

We will be contacting all workshop attendees by email approximately 6 months after the workshop to request your participation in an interview. Participation is entirely voluntary, and there is no penalty for declining.

We would be very happy to receive your comments or questions regarding the survey. You may write them on the back of this survey or contact us at your convenience. Thank you in advance for your help and cooperation with this initiative.

*If you have any questions or concerns regarding the survey, please contact:*

Dr. Olga Heath, Supervisor:  
University Counselling Centre  
UC-5000  
Memorial University  
Ph: 709-864-3493  
Email : oheath@mun.ca

## Appendix B – Anonymous Code Form



**PRE-EVALUATION**  
**Working better with eating disorders:**  
**Combining emotion focused and**  
**family-based interventions across the**  
**lifespan**

### Anonymous Code

We would like you to format an anonymous linking code, using the example provided as a guide. Completing this section is voluntary but essential for us to link responses in order to measure change without asking for any identifying information. The code provided will not allow us to identify you as an individual but will allow us to match your responses to this survey with responses to other surveys you will complete.

#### Example:

John Martin, born September 20, 1986, whose home phone number is 555-8365, would fill it out this way:

Your month of birth (2 digits): 09

Your day of birth (2 digits): 20

Last 4 digits of your home phone number (4 digits): 8365

The code for John Martin would be: **09208365**

Please format your own code:

**You do not have to memorize this code as you will be given these instructions again to format this code on all subsequent surveys.**

**The anonymous code will be used for analysis purposes but will NEVER BE REPORTED.**

**If you attended one of the previous Eating Disorder Interprofessional Community Capacity Building (EDICCB) workshops for eating disorders, we would like to be**



**able to link your previous surveys with the current survey. If your home phone number has changed since then, your anonymous code will also have changed.**

**If you attended a previous EDICCB workshop and your home phone number has changed, please provide the last 4 digits of your old home phone number. If your number is the same or you did not attend a previous EDICCB workshop, please leave this section blank.**

**Last 4 digits of OLD home phone number:**

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### Appendix C – Demographic Survey

#### Background

1. Are you:      ☐ female      ☐ male
  
2. Please indicate your age: \_\_\_\_\_
  
3. What is your professional/occupational area?
 

<input type="checkbox"/> Clergy/Pastoral Care	<input type="checkbox"/> Clinical Psychologist	<input type="checkbox"/> Dietitian
<input type="checkbox"/> Educational Psychologist Counsellor	<input type="checkbox"/> Family Physician	<input type="checkbox"/> Guidance
<input type="checkbox"/> Nurse Therapist	<input type="checkbox"/> Nurse Practitioner	<input type="checkbox"/> Occupational
<input type="checkbox"/> Pediatrician	<input type="checkbox"/> Pharmacist	<input type="checkbox"/> Physiotherapist
<input type="checkbox"/> Psychiatrist	<input type="checkbox"/> Social Worker	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Student (Please specify in which profession): _____		
  
4. Thinking about the last six months, how many individuals did you see PER WEEK where eating disorders were a major concern?  
 \_\_\_\_\_ PER WEEK  
 Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
  
5. Thinking about the past six months, how many interprofessional contacts (i.e., with other health professionals from a different discipline) for the treatment of patients/clients and/or families dealing with eating disorders have you had PER MONTH?  
 \_\_\_\_\_ PER MONTH

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**6. Where do you see your patients/clients with eating disorders? (Please check all that apply)**

- ☐ Community clinic      ☐ Hospital-inpatient      ☐ Hospital-outpatient
- ☐ Private practice      ☐ School      ☐ Other \_\_\_\_\_

**7. In what community do you currently practice/work (optional)?**

\_\_\_\_\_

**8. How many years of work experience do you have in your field?**

\_\_\_\_\_

**9. Did you attend one of the previous series of Eating Disorder Interprofessional Community Capacity Building (EDICCB) two-day workshops on eating disorders?**

- ☐ Yes      ☐ No

### Appendix D – Self-Rated Knowledge Questionnaire

#### Knowledge Questionnaire

Rate **YOUR CURRENT KNOWLEDGE** about each of the following aspects of the management of eating disorders:

	Not knowledgeable				Very knowledgeable		
	1	2	3	4	5	6	7
1. Identifying eating disorders across the lifespan							
2. Treating eating disorders across the lifespan							
3. Using <i>Emotion Focused Therapy</i> to treat eating disorders							
4. Using <i>Family Based Therapy</i> to treat eating disorders							
5. Interprofessional care in eating disorders							
6. The basic principles and phases of Family Based Therapy							
7. The attachment and identity processes in the development and maintenance of eating disorders							
8. Using a combination of <i>Emotion Focused Therapy</i> and <i>Family Based Therapy</i> in treating eating disorders							
9. Other health professionals in your geographical area with whom you could collaborate in caring for clients/families with eating disorders							
10. Using <i>Cognitive-Behavioural</i> techniques in treating eating disorders							

### Appendix E – Self-Rated Confidence Questionnaire

#### Confidence Questionnaire

Rate **YOUR CONFIDENCE** in the following aspects of managing eating disorders:

	Not confident				Very confident		
	1	2	3	4	5	6	7
1. Identifying eating disorders across the lifespan							
2. Treating eating disorders across the lifespan							
3. Using <i>Emotion Focused Therapy</i> to treat eating disorders							
4. Using <i>Family Based Therapy</i> to treat eating disorders							
5. Interprofessional care in eating disorders							
6. The basic principles and phases of Family Based Therapy							
7. Addressing the attachment and identity processes in the development and maintenance of eating disorders							
8. Using a combination of <i>Emotion Focused Therapy</i> and <i>Family Based Therapy</i> in treating eating disorders							
9. Collaborating with other health professionals in your geographical area in caring for clients/families with eating disorders							
10. Using <i>Cognitive-Behavioural</i> techniques in treating eating disorders							

**Appendix F – Objective Knowledge Test with Answers****Eating Disorder Questions**

**Please circle the response that you think best answers each question.**

1. Eating disorders are symptoms of \_\_\_\_\_.
  - a) Extreme emotional arousal
  - b) Emotional avoidance
  - c) Maladaptive beliefs about emotions
  - d) (a) and (b)
  - e) (b) and (c)**
  
2. A client's unwillingness to invite a parent or significant other into the therapy process is most often related to \_\_\_\_\_.
  - a) Desire for privacy
  - b) Identity/attachment issues**
  - c) Protecting the parent/significant other
  - d) Shame about the eating disorder
  - e) Dissonant emotional reactions
  
3. Monitoring a client's food intake and episodes of disordered eating through the use of a self-monitoring diary is:
  - a) An evidence-based therapeutic tool in the treatment of anorexia nervosa
  - b) Contra-indicated only in the treatment of adolescents with eating disorders
  - c) An evidence-based therapeutic tool in the treatment of all eating disorders**
  - d) Contra-indicated in the treatment of eating disorders
  - e) An evidence-based therapeutic tool in the treatment of bulimia nervosa
  
4. What is the best way to determine a parent's ability to be involved in family or dyadic therapy?
  - a) It is always a good idea to involve a parent in family or dyadic therapy
  - b) It is nearly impossible to tell without an assessment session with the parent**
  - c) Do not involve if the client describes the parent as highly critical and/or incapable of participating
  - d) Involve only if the parent has never had an eating disorder
  - e) Involve only if the parent has experienced mental health problems and understands what it's like

5. According to the emotion focused and family based therapy (EFT & FBT) model, individual therapy for many children and adolescents with eating disorders is \_\_\_\_\_.

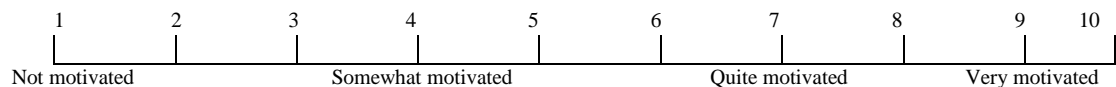
- a) Often contra-indicated
  - b) A necessary part of the process
  - c) Often useful, depending on the child/adolescent
  - d) Indicated only during Phase I
  - e) Indicated only when the child/adolescent has a severe eating disorder
6. The principles of emotion processing include \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ emotion.
- a) Accessing, Expressing, Transforming
  - b) Examining, Expressing, Transforming
  - c) Accessing, Understanding, Transforming
  - d) Accessing, Examining, Understanding
  - e) Expressing, Understanding, Transforming
7. Monitoring a client's weight on the office scale is:
- a) An evidence-based therapeutic tool in the treatment of anorexia nervosa
  - b) Contra-indicated only in the treatment of adolescents with eating disorders
  - c) An evidence-based therapeutic tool in the treatment of all eating disorders
  - d) Contra-indicated in the treatment of eating disorders
  - e) An evidence-based therapeutic tool in the treatment of bulimia nervosa
8. Which of the following is NOT a warning sign for a suspected eating disorder?
- a) Avoiding drinking fluids
  - b) Skipping meals
  - c) Counting calories
  - d) Elimination of certain foods
  - e) Avoiding eating with family and friends
9. Parents can be taught to soothe their child and teach them to effectively manage their emotions \_\_\_\_\_.
- a) As long as their child agrees to participate
  - b) At any age
  - c) If the parent has high emotional intelligence
  - d) If they start before adolescence
  - e) If the parent already has a strong relationship with the child
10. What is/are the most common co-morbid psychiatric condition(s) of eating disorders?
- a) depression
  - b) substance abuse
  - c) anxiety
  - d) (a) and (b)
  - e) All of the above

### Appendix G – EFT Readiness Ruler

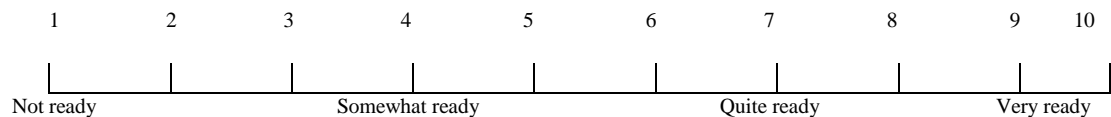
#### Readiness Ruler – EFT

Please rate your motivation to start using Emotion Focused Therapy in your professional work by circling the number on each scale that applies to you.

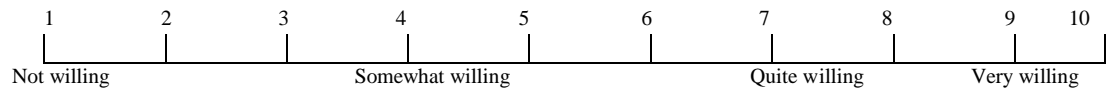
1. How *Motivated* are you to start using emotion-focused therapy (EFT) techniques across the lifespan in your professional work?



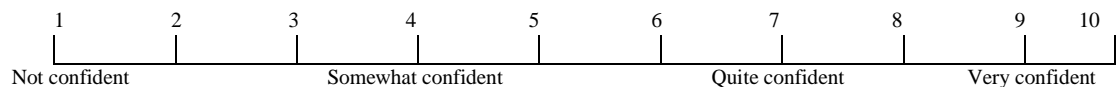
2. How *Ready* are you to make the changes you need to make to start using EFT techniques across the lifespan in your professional work?



3. How *Willing* are you to make the changes you need to make to start using EFT techniques across the lifespan in your professional work?



4. How *Confident* are you in your ability to make the changes you need to make to start using EFT techniques across the lifespan in your professional work, if you decide to do it?



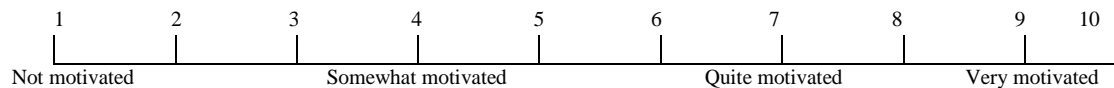


## Appendix H – FBT Readiness Ruler

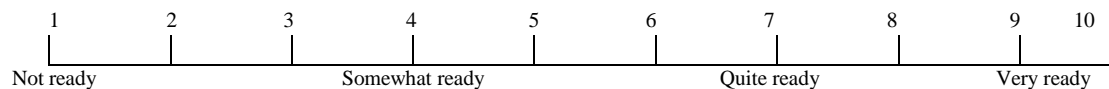
### Readiness Ruler – FBT

Please rate your motivation to start using Family Based Therapy in your professional work by circling the number on each scale that applies to you.

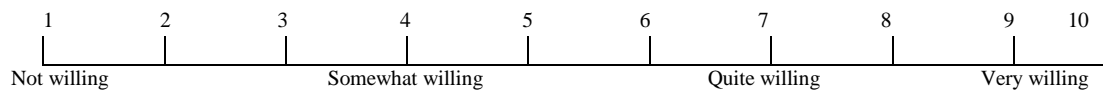
1. How *Motivated* are you to start using family based therapy (FBT) techniques across the lifespan in your professional work?



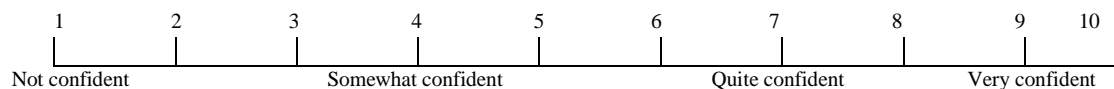
2. How *Ready* are you to make the changes you need to make to start using FBT techniques across the lifespan in your professional work?



3. How *Willing* are you to make the changes you need to make to start using FBT techniques across the lifespan in your professional work?



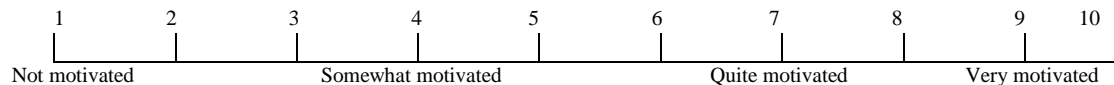
4. How *Confident* are you in your ability to make the changes you need to make to start using FBT techniques across the lifespan in your professional work, if you decide to do it?



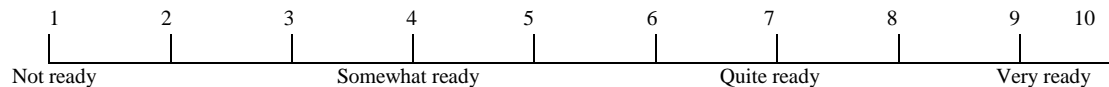
**Appendix I – Interprofessional Collaboration Readiness Ruler****Readiness Ruler – Interprofessional Collaboration**

Please rate your motivation to start using more Interprofessional Collaboration in your professional work by circling the number on each scale that applies to you.

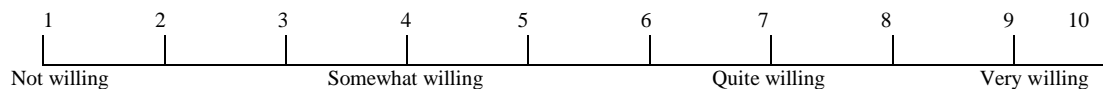
1. How *Motivated* are you to engage in more interprofessional collaboration in your professional work with people with eating disorders and their families?



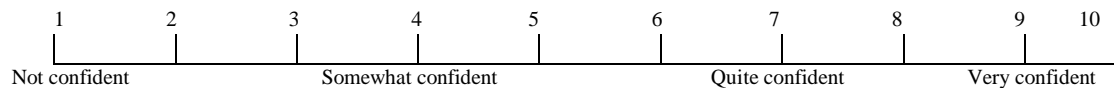
2. How *Ready* are you to make the changes you need to make to start engaging in more interprofessional collaboration in your professional work with people with eating disorders and their families?



3. How *Willing* are you to make the changes you need to make to start engaging in more interprofessional collaboration in your professional work with people with eating disorders and their families?



4. How *Confident* are you in your ability to make the changes you need to make to start engaging in more interprofessional collaboration in your professional work with people with eating disorders and their families, if you decide to do it?



## Appendix J – Attitudes Towards Interprofessional Collaboration Questionnaire

### ATTITUDES Towards Interprofessional Care of Patients/Clients with Eating Disorders

**Note:** *Interprofessional health care* involves health professionals from at least two different disciplines or professions who share a common purpose and work together collaboratively and interdependently to serve a specific patient/client population and achieve the team's and organization's goals and objectives.

Please indicate your level of agreement with each of the following statements, by checking the appropriate space following each statement.

Use the scale SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree.

STATEMENT:	SD	D	N	A	SA
1. Patients/clients receiving <b>interprofessional</b> care for eating disorders are more likely than others to be treated as whole persons.					
2. Developing an <b>interprofessional</b> care plan for a patient/client with an eating disorder is excessively time consuming.					
3. The give and take among care professionals working with patients/clients with eating disorders helps them make better decisions about patient/client care.					
4. The <b>interprofessional</b> approach makes the delivery of care for patients/clients with eating disorders more efficient.					
5. Developing a care plan for a patient/client with eating disorders with other professionals avoids errors in delivering care.					
6. Working in an <b>interprofessional</b> manner unnecessarily complicates things most of the time.					
7. Working in an <b>interprofessional</b> environment keeps most professionals enthusiastic and interested in their jobs.					
8. The <b>interprofessional</b> approach improves the quality of care for patients/clients with eating disorders.					
9. In most instances, the time required for <b>interprofessional</b> care consultations about patients with eating disorders could be better spent in other ways.					
10. Individuals from different professions/occupations working collaboratively are more responsive to the emotional and financial needs of patients/clients than those working individually.					
11. A collaborative approach to care for patients/clients with eating disorders permits professionals to meet the needs of family caregivers as well as patients/clients.					
12. Consulting in an <b>interprofessional</b> manner increases understanding of other professions.					

13.	Patients/clients with eating disorders who receive <b>interprofessional</b> care are better served than patients/clients who do not.					
14.	Group meetings foster communication among participants from different professions or disciplines.					

Scale adapted from: Heinemann, GD, Schmitt, MH, and Farrell, MP. Attitudes toward health care teams. In Heinemann, GD, and Zeiss, AM. (Eds.) Team performance in health care: Assessment and Development. (pp. 155-159). New York: Kluwer Academic/ Plenum Publishers, 2002.

### Appendix K – Treatment Techniques Questionnaire

#### Treatment Techniques Questionnaire

Please select the proportion of your clients with eating disorders with whom you use the following techniques:

Technique	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %
	-	-	-	-	-	-	-	-	-	-
	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Routine weighing										
Mindfulness or emotion regulation skills										
Self-interruptive 2-chair										
Aversive conditioning										
Food diaries										
Parent emotion coaching										
Behaviour experiments										
Educating about # of calories in foods										
Unfinished business 2-chair										
Structured/mechanical eating										
Exposure to feared foods										
Self-critic 2-chair										

Adapted from: Waller, G., Stringer, H., & Meyer, C. (2012). What Cognitive Behavioral Techniques Do Therapists Report Using When Delivering Cognitive Behavioral Therapy for the Eating Disorders? *Journal of Consulting and Clinical Psychology*, 80(1), 171-175.

## Appendix L – Workshop Feedback/Satisfaction

### Program Feedback

**We strongly encourage your open and honest feedback about all aspects of the workshop.**

**Please answer the following questions, based on the two-day workshop:**

*Use the scale: SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree*

	SD	D	N	A	SA
1. This workshop has enhanced my understanding of the importance of interprofessional collaboration in the area of eating disorders					
2. This workshop has enhanced my understanding of emotion focused therapy in the treatment of eating disorders					
3. This workshop has enhanced my understanding of family based therapy in the treatment of eating disorders					
4. This workshop has enhanced my understanding of attachment and identity in the development and maintenance of eating disorders					
5. This workshop has enhanced my understanding of how to integrate emotion focused and family based therapies in the treatment of eating disorders					
6. The lunchtime session has enhanced my knowledge about professionals in my geographic area with whom I could collaborate in treating clients/families dealing with eating disorders					
7. The workshop sessions were well organized.					
8. The workshop sessions were interesting.					
9. The presenters were well prepared and informed.					
10. I would recommend this workshop to other professionals.					
11. Overall, this was a meaningful learning experience.					

12. (i) What did you **like** about this Workshop? Please explain:

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(ii) What did you **dislike** about this Workshop? Please explain:

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13. Please describe any changes you are planning to make in your practice as a result of something you have learned from this program:

- i) \_\_\_\_\_
- ii) \_\_\_\_\_

iii) \_\_\_\_\_

14. Please agree or disagree with the following statement: "Throughout the workshop, there was **NO** evidence of industry bias."

☐ Agree

☐ Disagree

***Thank you for your participation!***

**Appendix M – Practice Change Questionnaire****Practice Change Questionnaire**

1. Has your practice changed as a result of the workshop you attended in St. John's on April 18 and 19, 2012 on Emotion Focused Therapy and Family Based Therapy for eating disorders?

☐ Yes                      ☐ No

If yes, please explain in what ways your practice has changed:

2. Have you used techniques from the workshop?

☐ Yes                      ☐ No

If yes, please explain which techniques you have used:

3. In the last 6 months, with what proportion of your clients **with eating disorders** did you use techniques that you learned from the workshop?

0-10%	10-20%	20-30%	30-40%	40-50%	50-60%	60-70%	70-80%	80-90%	90-100%
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:



4. Have you stopped using some techniques you used to use as a result of the workshop?

☐ Yes                      ☐ No

If yes, please explain:

5. Have you tried to work more collaboratively with other professionals in managing clients/families affected by EDs?

☐ Yes                      ☐ No

Please explain:

6. Have you implemented the action plan that you created at the workshop?

☐ Yes                      ☐ No

Why or why not?

7. What is the next step you are going to take in working better with eating disorders?

Please comment:

**Appendix N – Interview Prompts for Non-CFG Participants**

- Professional role with EDs
  - What kind of work do you do with eating disorders?
  - How many clients/patients do you typically see?
  - Has the way you practice changed since the EFT/FFT workshop?
  - What do you do more of, or less of?
- Amount of collaboration/communication with other professionals
  - How often do you work with other professionals around eating disorders?
  - Has this changed since the EFT/FFT workshop?
  - Has it changed since the earlier EDICCB workshop?
- Assessment of how successful implementation of new action plan has been (ask if they can have the plan in front of them)
  - Have you been able to implement the action plan you designed at the emotion focused and family based therapy workshop last April?
  - What parts have worked?
  - What parts haven't worked?
  - What do you plan to do next?
- Discussion of barriers and how some have been overcome, and facilitators
  - What has gotten in the way as you have tried to change the way you work with clients/patients eating disorders?
  - What has gotten in the way of working interprofessionally?
  - What barriers to change have you overcome so far?
  - How did you do it?
  - What has facilitated change for you or has been helpful in some way?
- Request for suggestions on the delivery of workshops, or other services that would help
- Thank you

**Appendix O – Interview Prompts for CFG Members**

- Professional role with EDs
  - What kind of work do you do with eating disorders?
  - How many clients/patients do you typically see?
  - Has the way you practice changed since the EFT/FFT workshop?
  - What do you do more of, or less of?
- CFG involvement
  - How has your role as a professional changed since becoming part of the community facilitation group?
  - How important do you see your CFG role as being?
  - How do you see your role changing in the future?
- History of what has been done so far and what has changed in their community
  - Since you started this work at the time of the first workshops for eating disorders, what have you done?
  - What has changed in your community?
  - What is different for health professionals?
  - What is different for clients/patients?
- What still needs to be done?
  - What still needs to be done in your community?
  - How will you do it?
  - When?
  - What help do you need?
- Assessment of how successful implementation of new action plan has been (ask if they can have the plan in front of them)
  - Have you been able to implement the action plan you designed at the emotion focused and family based therapy workshop last April?
  - What parts have worked?
  - What parts haven't worked?
  - What do you plan to do next?
- Amount of collaboration/communication with other professionals
  - How often do you work with other professionals around eating disorders?
  - Has this changed since the EFT/FFT workshop?
  - Has it changed since the earlier EDICCB workshop?
- Discussion of barriers and how some have been overcome, and facilitators
  - What has gotten in the way as you have tried to change the way you work with clients/patients eating disorders?
  - What has gotten in the way of working interprofessionally?
  - What barriers to change have you overcome so far?
  - How did you do it?
  - What has facilitated change for you or has been helpful in some way?
- Request for suggestions on the delivery of workshops, or other services that would help
- Thank you